ESSAYS ON INTERNATIONAL JOINT VENTURES AND CORPORATE FINANCE

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This dissertation includes two chapters on international joint ventures and corporate finance.

Chapter 1 is the first to relate the hubris hypothesis (Roll, 1986) to international joint ventures. I investigate shareholder wealth effects of US-China joint venture announcements from 1985 to 2007, utilizing the SDC database. The results show that, on average, investing in China through joint ventures is a wealth-creating activity for US shareholders. However, there is considerable cross-sectional disparity in wealth effects. The worst joint ventures are made by firms with the best recent performance, which suggests that managerial hubris drives bad joint venture investments and damages shareholders' wealth. There is no evidence that agency problems lower shareholder announcement returns significantly. Trading around announcements is consistent with the hubris explanation. The results also suggest that an independent and vigilant board may resist the detrimental effects of managerial hubris.

Chapter 2 investigates the shareholder value of 1042 international joint venture announcements made by US firms from 1999-2008. In general, shareholders of US partners announcing IJV investments in foreign countries realize positive and significant abnormal returns. Further analysis shows that IJVs invested outside of the

core businesses of both US and foreign partners and formed by partners with different core businesses are most value-increasing for US shareholders. Results suggest that industrial diversification through IJV investments increases shareholder value of US partners, and partner business unrelatedness enhances value creation from diversification. The diversification premium found in this paper also suggests that the international joint venture may be a preferred mode over international acquisition and Greenfield FDI when US firms engage in foreign direct investments outside of their core businesses.

BIOGRAPHICAL SKETCH

Lanyue Zhou was born in Luzhou city, Sichuan province, China, in 1976. She is the only child of Boqi Zhou and Chunming Fu. Her grandfather, Yongkang Zhou, gave her the first name “Lanyue” which comes from a poem of Chairman Mao Zedong, and means “chasing the moon” in Chinese.

She attended elementary school at Luzhou Zitonglu and high school at Luzhou Gaozhong. In 1994, she was exempted from the national college entrance examination and admitted to the School of Management and Economics, University of Electronic Science and Technology of China (UESTC) in Chengdu. After completing her Master’s at UESTC in 2001, Lanyue moved to Beijing to begin her career.

Following two years of professional work in Beijing, Lanyue came to Cornell University to pursue her Ph.D. in Economics in 2003. She will join the faculty of the University of International Business and Economics (UIBE) in Beijing upon graduation from Cornell in 2009. She is happy to work in a Chinese university and contribute to Chinese higher education like her father, who works as a university president in Luzhou.

Lanyue is married to Yu Tang, who currently works in Beijing. Their relationship began when they were classmates at UESTC.

To my husband, Yu and my parents, Boqi and Chunming

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CHAPTER 1

MANAGERIAL HUBRIS AND INTERNATIONAL JOINT VENTURES: EVIDENCE FROM U.S.-CHINA JV ANNOUNCEMENTS

1.1 Introduction

This paper provides the first study to relate managerial hubris[1] to international joint venture investments. The idea for this paper is motivated by two separate areas of the literature. One is the irrational manager approach in behavioral corporate finance, or, more specifically, managerial hubris or overconfidence. The other is the work on shareholder wealth effects of international joint ventures in international finance.

Debont and Thaler (1995) point out that "perhaps the most robust finding in the psychology of judgment is that people are overconfident." Goel and Thakor (2008) find that overconfident managers are more likely to be promoted to CEO, and imply that overconfidence is more prevalent among CEOs than in the general population.

Roll (1986) pioneers the irrational manager approach in the corporate finance literature, advancing a "hubris" theory as an explanation of corporate takeovers. Managers in acquiring firms pay too much for targets because they overvalue the target and gains from the corporate combination, which causes losses to bidding firm shareholders. Roll concludes that "the evidence supports the hubris hypothesis as much as it supports other explanations".

Roll's hubris theory echoes a vivid description made by Warren Buffet: "Many managements apparently were overexposed in impressionable childhood years to the

[1] The terminologies of managerial hubris, managerial overconfidence, and managerial overoptimism are interchangeable in the literature. In this paper, I define managerial hubris as managers "overstat[ing] the increase in economic value" (Roll, 1986) of their international joint ventures or overconfident CEOs "overestimat[ing] the return to their" international joint venture "investment projects" (Malmendier and Tate, 2005).

story in which the imprisoned handsome prince is released from a toad's body by a kiss from a beautiful princess. Consequently, they are certain their managerial kiss will do wonders for the profitability of Company T(arget). Such optimism is essential…many managerial princesses remain serenely confident about the future potency of their kisses - even after their corporate backyards are knee-deep in unresponsive toads".[2]

International joint ventures are important and common tools employed by firms in investing abroad.[3] Many studies have explored the shareholder wealth effects of international joint ventures, but results in terms of value creation are mixed. The source of inefficient joint ventures is unclear.

Although the hubris hypothesis is proposed by Roll for domestic corporate takeovers, valuation errors caused by managerial hubris are likely to occur in other corporate investments, as well. Malmendier and Tate (2005) show that CEO overconfidence causes corporate investment distortions. In the context of cross-border investments, Seth, Song, and Pettit (2000) find evidence which is consistent with the hubris hypothesis for foreign acquisitions of U.S. firms. Therefore, managerial hubris may be relevant in the context of cross-border joint venture investments. Managers with hubris may over invest in some unprofitable international joint ventures at the expense of shareholders' wealth because they mistakenly overestimate returns from those joint ventures.[4]

Stock market reactions to joint venture announcements provide a direct measure of shareholder wealth. My initial sample includes all US-China joint venture

[2] http://www.berkshirehathaway.com/letters/1981.html

[3] Beside joint ventures, other two modes of foreign direct investment are acquisitions and wholly owned greenfield investments.

[4] Managerial hubris explanation is different from the agency problems explanation. Overconfident managers are loyal to shareholders although their inadvertent bad investments actually harm shareholders. Agency problems explanation states that mangers will make bad investments for their personal benefit, without regard for shareholders' wealth.

announcements before the end of 2007 in the SDC platinum. There are three reasons to focus my sample of international joint ventures on US-China joint ventures located in China. First, the existing literature has shown that shareholder wealth effects of international joint ventures are related to characteristics of the countries of partners and the location of joint ventures. Focusing on a pair of specific partner countries and a specific destination country has advantages in terms of clearly revealing firm level determinants. Second, China is ranked the most favored destination for foreign direct investment.[5] According to the *Economist*, "It seems that every multinational in the world is either in China already or declaring that it cannot afford not to be."[6] Therefore, it is more likely that firms overestimate potential returns from their joint venture investment projects in China. Third, the United States maintains its position as the largest single source country of foreign direct investment[7], and the availability of data for US firms also make my empirical analysis feasible.

In this paper, I try to answer the following questions: Does the managerial hubris of US partners drive inefficient international joint venture investments and damage shareholder returns? Does the alternative and rational agency problem drive bad international joint venture investments? What can firms do to resist managerial hubris?

The main findings of this paper are: (1) Abnormal returns of US partners around joint venture announcements are positive on average, and negatively related to the managerial hubris indicator. Shareholders of high hubris US firms significantly lose, while shareholders of low hubris US firms significantly gain upon joint venture announcements. (2) Agency problems do not affect announcement shareholder returns

[5] The Economist, Jan 20th 2005. This ranking is according to an annual survey "FDI confidence index", which is based on an annual survey of CEOs, CFOs, and other top executives of Global 1000 companies, conducted by A.T. Kearney.
[6] The Economist, Mar 18th 2004.
[7] World Investment Report 2008, UNCTAD.

of US partners significantly. (3) The negative relationship between the hubris indicator and abnormal returns is strengthened when the board chair and CEO positions are held by the same person. (4) Announcement trading volume for high hubris US firms is abnormally high.

The contribution of this paper lies in the following: First, it combines the literature from three subfields of finance – behavioral finance, corporate finance and international finance. Second, this is the first paper that uses well-known hubris theory to study investment efficiency of international joint ventures. Third, this is also the first paper that comprehensively tests the effect of agency problems on shareholder wealth effects of international joint ventures.

The remainder of the paper is structured as follows. Section 1.2 reviews related literature. Section 1.3 describes the sample. Wealth effects of US-China joint ventures are presented in Section 1.4. Section 1.5 discusses the cross-sectional analysis of wealth effects. Section 1.6 provides further evidence of managerial hubris. Section 1.7 summarizes and concludes the paper.

1.2 Literature review

1.2.1 Managerial hubris (overconfidence) and corporate investments

Roll (1986) introduces the irrational manager approach to the study of corporate investments with his hubris theory of corporate takeovers, suggesting that at least part of the takeover premium is caused by the overvaluation error of bidders. Decision makers in acquiring firms are affected by hubris and pay too much for targets. Hubris theory predicts the value of the bidding firm decreases on announcement of a bid.

Hayward and Hambrick (1997) examine the role of CEO hubris in a sample of 106 large acquisitions in 1989 and 1992. They construct a hubris factor from three

hubris indicators: recent acquirer performance, media praise for the CEO, and CEO relative compensation. They find that the hubris factor is positively associated with acquisition premium and negatively associated with one-year post acquisition shareholder returns, but they don't find that hubris has an effect on immediate shareholder returns.

Malmendier and Tate (2005a) regress investment on cash flow, the CEO overconfidence measure, and the interaction term of cash flow and overconfidence measure, using the timing of option exercises and habitual acquisition of stock to measure CEO overconfidence. They find that the investment of overconfident CEOs is more sensitive to cash flow than the investment of CEOs who are not overconfident and interpret this heightened sensitivity as: overconfident CEOs overestimating returns from their investment, and over investing relative to the first-best when there is sufficient cash flow. They conclude that managerial overconfidence leads to distortions in corporate investment. Malmendier and Tate (2005b) replicate the same regression used in Malmendier and Tate (2005a) using CEOs' press portrayals as a CEO overconfidence measure, and find consistent results. Malmendier and Tate (2008) study the overconfidence of a sample of FORBES 500 CEOs and their merger decisions. Using two proxies of CEO overconfidence: executive option exercise delay and press portrayal, they find that overconfident CEOs are more likely to make acquisitions. They also find that the market reaction at merger announcements is more negative for firms with overconfident CEOs.

1.2.2 Shareholder wealth effects of joint ventures for US partners

McConnell and Nantell (1985) provide the first study to use stock market data to investigate questions regarding joint ventures. Based on a sample of 210 firms involved in 136 US domestic joint ventures from 1972 to 1979, they find a significant

two-day average abnormal return of 0.73%, and an average increase of about 5 million in dollar values. The smaller partner earns a larger abnormal return than the larger partner while the dollar gains are more equally divided. These wealth gains scaled by amounts invested are similar to those documented in mergers. Given the similarity in results of their paper on joint ventures and various studies of mergers, they suggest that their results are supportive of the synergy effect as the source of gains from corporation combinations. However, they don't analyze fundamental economic factors that generate the wealth gains.

Many studies investigate wealth effects of international joint ventures for US shareholders, but they present mixed results.

Some studies (e.g., Lummer and McConnell, 1990; Ueng, Kim, and Lee, 2000) find significantly positive abnormal returns for US firms announcing international joint ventures. Lummer and McConnell (1990) examine joint ventures of US firms with foreign firms and foreign governments during 1971 to 1980. They show that international joint ventures are value-creating investments for shareholders of US partners. The average announcement period return for their sample is 0.40% with a t-statistics of 2.42. Value increases with the size of the investment. Joint ventures with foreign firms create more value than joint ventures with foreign governments. The study provides no evidence that the increases in value are the result of diversification benefits. There is also no evidence that joint ventures in less developed countries are particularly valuable for shareholders of US partners. Ueng, Kim, and Lee (2000) provide evidence that international joint ventures are value-increasing activities for shareholders of US multinational firms. Their results show that higher returns are associated with IJVs with developed countries than with developing countries. They also show that stock markets react more favorably to IJV announcements when US firms possess a higher degree of ownership advantages.

Some papers (e.g., Finnerty et al., 1986; Gupta and Misra, 2000) show that market response to the announcements of international joint ventures is insignificant. Finnerty et al. (1986) analyze 208 US domestic and international joint ventures, and find no significant abnormal returns around joint ventures formation. They indicate that the wealth effect for shareholders of US partners is similar to acquirers in mergers and tender offers. Gupta and Misra (2000) analyze 532 international joint venture announcements between one US firm and one or more foreign firms from 1979 to 1992. They find that the two-day announcement-period CAR is 0.057% and not statistically significant. The numbers of positive and negative reactions in the sample are roughly equal.

Some papers (e.g., Lee and Wyatt, 1990; Chung, Koford, and Lee, 1993) find wealth losses from announcements of foreign joint ventures for shareholders of US firms. Lee and Wyatt (1990) report that the abnormal return on the announcement date is -0.466% and significant, the cumulative abnormal return from day -5 to day +5 is about -1.38%, and also significant. Their results show that only joint ventures with firms from lesser developed countries have nonnegative effects on shareholders' wealth, and suggest that one explanation of their results may be provided by Jensen's agency cost of free cash flow. Firms may over invest in foreign joint ventures that increase managers' control at the expense of shareholders' wealth. However, they don't empirically test their argument. Chung, Koford and Lee (1993) investigate 164 US firms from 1969 to 1988, and show that the value of US firms making international joint ventures falls by 2.79% during the 90-day period surrounding the announcement date.

Several papers focus on US investment in China and study the shareholder wealth effects of US-China joint ventures. Chen, Hu, and Shieh (1991) offer the first study on the shareholder wealth effects of US investment in China through

international joint ventures. For a sample of 88 US-China joint venture announcements during the 1979-1990 period, they find that the US stock market reacts positively to announcements and the abnormal return on the announcement date is 0.52%. Their results suggest that establishing joint ventures in China creates positive wealth gains for shareholders because the multinational firm benefits from establishing a global network. In addition, they find that the positive wealth effect is negatively related to the size of the foreign investment, but that variables such as the number of foreign subsidiaries, prior presence in the Far East market and the size of parent firms can not explain the announcement effect. They suggest that firms should "actively explore opportunities in China through joint ventures, while at the same time they should be prudent and start small".

Hu, Chen, and Shieh (1992), in a study of US-China joint ventures, find that US investors' response to joint venture announcements is associated with the degree of international involvement of US companies. US companies with low international involvement experience positive abnormal returns when joint venture announcements are made. Firms with high international involvement receive no significant positive or negative stock re-evaluation.

Gupta et al. (1991) show that joint venture equity investment in China is a value enhancing activity for US multinational corporations. Results from cross-sectional regressions show that investing in equity joint ventures in China is more valuable for firms that have a relatively small market share, a relatively low level of capital intensity and a greater level of technological intensity.

Cheng, Fung, and Lam (1998) study a sample of 103 US-China joint ventures during the 1979-1993 period and find a significant 3-day abnormal return of 1.02%. To explain abnormal returns, they examine eight variables including four financial ratios (current ratio, debt ratio, total assets turnover, ROE), industry classification,

prior experience in China, location of headquarters and time trend. The sub-sample and regression analysis shows that none of the factors examined affect the size of the abnormal returns during the joint ventures announcements. The paper suggests that further research is needed to understand the determinants of stock price effects of US-China joint venture announcements.

Mittoo and Chung (2002) analyze the wealth effect of joint venture investments in China for firms from the US and Hong Kong in the 1989-1995 period. They report that Chinese joint ventures are value-enhancing for shareholders of US firms. These wealth gains are positively related to the previous business experience of US partners in China, and negatively related to firm size of US partners. Presence in Southeast Asia and high technology ventures has a negative impact on wealth gains for US firms.

1.3 Sample selection and description

I obtain my sample of US-China joint venture announcements from the Thomson Financial SDC platinum joint ventures database. This database includes worldwide joint ventures information from sources such as the US Securities and Exchange Commission (SEC) filings and their international counterparts, trade publications, wires and news sources. I focus on joint ventures which are located in China and involve only one US partner and one Chinese partner. All US-China joint venture announcements before the end of 2007 in this database are included in my sample. To analyze stock market responses to announcements, US partners must list common stocks on the New York or American Stock Exchange and have daily stock price information available from the Center for Research in Securities Prices (CRSP). My final sample yields 388 joint venture announcements.

Table 1.1 shows the sample distribution by calendar year. The largest number of US-China joint venture announcements in one year is 60 (15.5%) in 1994, followed by 55 (14.2%) in 1995. This is consistent with the general pattern of inward foreign direct investment in China.[8]

Table 1.1: Sample distribution by year of US-China joint venture announcements

Year	Number of announcements	Percent of sample
1985	1	0.3
1986	0	0.0
1987	2	0.5
1988	1	0.3
1989	1	0.3
1990	4	1.0
1991	9	2.3
1992	13	3.4
1993	25	6.4
1994	60	15.5
1995	55	14.2
1996	31	8.0
1997	24	6.2
1998	22	5.7
1999	15	3.9
2000	16	4.1
2001	13	3.4
2002	19	4.9
2003	10	2.6
2004	12	3.1
2005	18	4.6
2006	17	4.4
2007	20	5.2
Total	388	100.0

[8] According to the EIU country data, the ratio of inward foreign direct investment over gross fixed investment in China is 16.8% in 1994 and 14.3% in 1995, ranking first and second during my sample period from 1985 to 2007.

Table 1.2 presents the distribution of joint ventures for sample firms and representative firms. The percentage of US firms with multiple announcements is about 30%. The most active US partners in the sample are Dupont, GM, Westinghouse, IBM, and Motorola.

Table 1.2: Sample distribution by frequency

Number of announcements per US partner	Number of US firms	Illustrative partners with the joint venture announcement date		
		US partner	Chinese partner	announcement date
13	1	EI du Pont de Nemours & Co	China National Textile Machinery	05/11/94
10	1	General Motors Corp	Zhejiang Asia-Pacific Machine & Electric Group	02/14/96
9	2	Westinghouse Electric Corp	Shanghai Electric Equipment Corp	06/18/96
7	1	International Business Machines Corp	China Great Wall Computer Group Co Ltd	08/31/99
6	3	Motorola Inc	Huawei Technologies Co Ltd	07/25/06
5	4	American Telephone & Telegraph Co	Shanghai Telecommunications Equipment Factory	03/31/93
4	8	Compaq Computer Corp	Beijing Founder Electronics Corp Ltd	12/15/98
3	18	Aluminum Co of America	Shanghai Aluminum Fabrication Plant	05/12/95
2	28	Procter & Gamble Co	Tianjin Toilet Soap Factory	11/23/93
1	160	International Paper Co	Shandong Sun Paper Industry Joint Stock Co Ltd	08/30/05

Table 1.3 reports the distribution of joint ventures by industry. Joint ventures are widely spread across 44 different industries. The largest group of joint ventures is formed in Chemicals and Allied Products (13.12%), followed by Transportation Equipment (12.60%), Business Services (6.30%) and Machinery (6.04%).

1.4 Wealth effects of US-China joint venture announcements

1.4.1 Methodology

I use standard event-study methods to investigate the effects of US-China joint venture announcements on the returns to the US firms' shareholders. Researchers have used this technique widely to examine shareholders' wealth effects associated with joint venture announcements. Abnormal returns created by joint venture announcements represent the changed economic value or wealth for shareholders from joint venture investments. Abnormal returns also reflect investors' assessment of future performance or value of joint ventures. Following Brown and Warner (1985), I use a market model in my event study. The announcement date from the SDC database is defined as day 0. Trading days prior to the announcement day are numbered event days -1, -2, and so on. Trading days after the announcement day are numbered event days +1, +2, and so on. For each firm, market model coefficients are estimated using daily returns and CRSP equally weighted market returns over the 150-day estimation period from day -170 to day -21. The coefficients estimated are used to compute the daily abnormal returns for the event period (days -10 to +10). Abnormal returns for all firms in each day are averaged to get average abnormal returns. Cumulative average abnormal returns are obtained by summing the average abnormal returns over various intervals. The values of abnormal returns (AR) and cumulative abnormal returns (CAR) are tested for a statistically significant difference from zero using the two-tail parametric Patell Z test. The nonparametric test is normally used to verify that results

Table 1.3: Sample distribution by industry of joint ventures

Industry	Frequency	Percent
Advertising Services	2	0.52
Aerospace and Aircraft	1	0.26
Agriculture, Forestry, and Fishing	1	0.26
Air Transportation and Shipping	4	1.05
Business Services	24	6.30
Chemicals and Allied Products	50	13.12
Commercial Banks, Bank Holding Companies	1	0.26
Communications Equipment	11	2.89
Computer and Office Equipment	10	2.62
Construction Firms	4	1.05
Credit Institutions	1	0.26
Drugs	12	3.15
Educational Services	1	0.26
Electric, Gas, and Water Distribution	8	2.10
Electronic and Electrical Equipment	19	4.99
Food and Kindred Products	16	4.20
Hotels and Casinos	2	0.52
Insurance	5	1.31
Investment & Commodity Firms, Dealers, Exchanges	10	2.62
Machinery	23	6.04
Measuring, Medical, Photo Equipment; Clocks	10	2.62
Metal and Metal Products	19	4.99
Mining	2	0.52
Miscellaneous Manufacturing	1	0.26
Oil and Gas; Petroleum Refining	9	2.36
Paper and Allied Products	4	1.05
Prepackaged Software	8	2.10
Printing, Publishing, and Allied Services	2	0.52
Real Estate; Mortgage Bankers and Brokers	1	0.26
Retail Trade-Eating and Drinking Places	3	0.79
Retail Trade-General Merchandise and Apparel	1	0.26
Rubber and Miscellaneous Plastic Products	7	1.84
Sanitary Services	3	0.79
Soaps, Cosmetics, and Personal-Care Products	7	1.84
Social Services	1	0.26
Stone, Clay, Glass, and Concrete Products	10	2.62
Telecommunications	7	1.84
Textile and Apparel Products	9	2.36
Tobacco Products	1	0.26
Transportation Equipment	48	12.60
Transportation and Shipping (except air)	10	2.62
Wholesale Trade-Durable Goods	10	2.62
Wholesale Trade-Nondurable Goods	2	0.52
Wood Products, Furniture, and Fixtures	1	0.26

from parametric tests are not driven by outliers. I use a nonparametric rank test described in Corrado (1989) to test the significance of the rank of the abnormal return. I also use the nonparametric generalized sign test to test whether the fraction of positive returns is different from that in the estimation period.

1.4.2 Event study results

The event study results in the Table 1.4 indicate that, on average, US shareholders benefit from the announcement of their firms' joint ventures in China for my sample. The AR on day 0 is 0.32%, the largest one-day abnormal return over the entire 21-day event period. This is statistically significant at the 5% level according to the parametric test, but not significant according to the nonparametric test. The two-day [0, +1] CAR is 0.53%, which is also significantly different from zero according to the parametric test. These abnormal returns found for my sample are similar to those documented in Chen, Hu, and Shieh (1991) for their US-China joint ventures sample between 1979 and 1990. Following McConnell and Nantell (1985), I also convert the abnormal return to a dollar value. For each announcement, [0, +1] abnormal return is multiplied by the firm's market value of equity. The cross-sectional mean of dollar values is about $31 million.[9] The fraction of stocks with positive CAR for the [0, +2] interval is 53.8% and significant. However, the results show that only in slightly more than half of the joint ventures did shareholders earn positive abnormal returns. There are quite a number of US partners experiencing negative abnormal returns on each day in the event period [-10, +10]. In the next section, I try to explain this considerable cross-sectional variation and investigate whether the hubris of US firms drives bad

[9] This average dollar value is much larger than the $4.8 million reported by McConnell and Nantell (1985) for US domestic joint ventures. It is similar to the dollar gain for US shareholders of $30.7 million reported by Crutchley, Guo, and Hansen (1991) for US-Japanese joint ventures.

international joint venture investments and damages shareholder announcement returns.

Table 1.4: Abnormal returns of US partners for US-China joint venture announcements, 1985-2007

Abnormal returns (AR) and cumulative abnormal returns (CAR) are generated using the market model. For each firm, market model coefficients are estimated using daily returns and CRSP equally weighted market returns over the 150-day ([-170, -21]) estimation period. AR and CAR are tested for a statistically significant difference from zero using the two-tail parametric Patell Z test. A nonparametric rank test described in Corrado (1989) is used for testing the significance of the rank of the abnormal return. The nonparametric generalized sign test is used to test whether the fraction of positive returns is different form that in the estimation period. ***, **, and * denote statistical significance at the 1%, 5% and 10% level, respectively.

Event day or window	AR or CAR (%)	Z statistic	Rank statistic	Percent positive of AR or CAR
-10	0.20	1.613	1.290	51.3
-9	0.15	1.453	0.310	46.7
-8	0.05	0.492	0.190	47.9
-7	-0.05	-1.132	-1.040	45.6
-6	-0.02	0.782	-0.210	46.7
-5	-0.11	-1.110	-1.350	45.3
-4	0.08	0.774	1.160	50.1
-3	-0.08	-0.468	0.000	49.0
-2	0.02	0.582	0.620	47.9
-1	-0.01	-0.367	-0.490	46.7
0	0.32	2.055**	1.360	48.7
+1	0.21	0.792	0.300	47.6
+2	-0.23	-0.799	-0.250	49.9
+3	-0.03	-0.161	-0.220	48.1
+4	0.04	0.802	-0.130	45.6
+5	-0.15	-0.411	-0.840	45.6
+6	0.08	0.082	-0.410	47.0
+7	-0.26	-1.555	-1.410	44.2
+8	-0.17	-1.342	-1.610	42.7*
+9	0.15	1.084	0.650	49.0
+10	-0.08	-0.445	-0.300	47.7
[0, +1]	0.53	2.013**	1.173	51.0
[0, +2]	0.30	1.182	0.815	53.8**
[-2, +3]	0.29	0.858	0.542	52.7*
[-5, +5]	0.07	0.510	0.055	49.0
[-10, -8]	0.41	2.054**	1.034	50.7
[-10, +10]	0.12	0.594	-0.513	51.0

1.5. Explanations of cross-sectional differences in wealth effects

1.5.1 Cross-sectional analysis

The cross-sectional analysis will help us to understand why positive abnormal returns are associated with some US-China joint venture announcements and not the others, whether managerial hubris significantly lowers abnormal returns, and whether agency problems significantly lower abnormal returns. The dependent variable is abnormal return of US partners upon joint venture announcements. I focus on two categories of explanatory variables that are expected to have an impact on US shareholders' value: US partners' characteristics and corporate governance variables. Characteristics variables include firm size, Tobin's q, leverage, free cash flow, and recent performance. These are variables that are usually associated with managerial hubris or agency problems. Firm size, Tobin's q, and leverage are also used as control variables in many studies. The key explanatory variable is the hubris indicator (recent performance). Corporate governance variables include an external governance variable on antitakeover provisions (the G-index developed by Gompers, Ishii, and Metrick (2003)), and three internal governance variables (institutional ownership, insider ownership, combined CEO-chair). These 4 governance variables are also related to hubris or agency explanation. All explanatory variables are discussed in more detail below.

US partners characteristics

Recent performance (RECENTPERFORM)

This is the key variable in the analysis. According to Roll (1986), "One would expect a higher level of hubris in firms that had experienced recent good times." The managerial hubris hypothesis of Roll implies a negative relation between observed abnormal returns from international joint venture announcements and recent

performance of US partners. The hubris hypothesis predicts that bad international joint venture investments are made by recent well performing firms, since their managers are most likely to be infected by hubris (Morck, Shleifer, and Vishny, 1990; Hayward and Hambrick, 1997). Chung, Koford, and Lee (1993) suggest that managerial hubris is a possible explanation for negative wealth effects of US international joint venture announcements, but do not carry out any analysis to test the hubris hypothesis.

In contrast, Morck, Shleifer, and Vishny (1990) find that announcement period bidder returns are lower when the bidder performs poorly before the acquisition. They suggest that bad acquisitions (or any other investments) are driven by bad managers who pursue personal objectives rather than maximization of shareholder wealth, and that bad acquisition is a reflection of agency problems in bidding firms. They argue that their results are inconsistent with Roll's hubris hypothesis. So, the agency explanation predicts a positive relation between abnormal returns at international joint venture announcements and recent performance of US partners.

Following Hayward and Hambrick (1997) and Lin et al. (2008), I use 12-month cumulative abnormal return above the equally weighted index prior to day -11 as a measure of US firms' recent performance and a proxy for hubris. Data is obtained from CRSP.

Free cash flow (FCF)

Both hubris and agency theories predict a negative effect of free cash flow on abnormal returns, but the arguments behind them are different. The agency costs of free cash flow theory (Jensen, 1986) says that managers of firms with large free cash flows (cash flow above the level needed to fund current positive NPV projects) are more likely to undertake a "low-benefit or even value-destroying" investment instead of paying cash out to shareholders, since payouts to shareholders reduce managers'

power. This implies that managers of firms with large free cash flow are more likely to over invest in unprofitable foreign joint ventures at the expense of shareholders' value (Lee and Wyatt, 1990). Mohanram and Nanda (1998) find that the stock market reacts unfavorably to joint venture announcements by firms that have high levels of free cash flow. However, Chen et al. (2000) find that the firm's level of free cash flow cannot explain the cross-sectional variations in wealth effects of international joint ventures. They suggest that the free cash flow hypothesis may apply to inter-corporate acquisitions, but not to strategic investments such as joint venture investments. Another possible explanation suggested in their paper is that their sample firms have better investment opportunities and, therefore, that the agency problems of free cash flow are not so severe. This explanation is consistent with the finding in Lang, Stulz, and Walking (1991) that bidder returns are significantly negatively related to free cash flow of firms with poor investment opportunities, but unrelated to the free cash flow of firms with good investment opportunities.

This negative effect is also consistent with the managerial hubris explanation. When overconfident managers don't have sufficient cash flow, they curb their investment. They are reluctant to issue more shares to fund their projects because they think that the market unfairly undervalues the stock of their company. Overconfident managers with a lot of free cash flow are more likely to over invest in lower-quality projects because they overestimate the return to their investment projects (Malmendier and Tate, 2005).

Following Masulis, Wang and Xie (2007), free cash flow is measured as operating income before depreciation minus interest expenses minus income taxes minus capital expenditures, and then scaled by book value of total assets. Data is collected from Compustat for the year preceding joint venture announcements.

Tobin's q (TOBINQ)

I use Tobin's q as a measure for investment opportunities as in Lang, Stulz, and Walking (1991). The literature has shown that investment opportunity is an important factor in explaining the shareholder wealth effect of various domestic and international corporate investments. Doukas (1995) finds that the US bidder abnormal returns in response to foreign acquisition investment announcements are larger for high q firms than low q firms. Chen et al. (2000) find that Singapore firms with favorable investment opportunities have significantly positive response to international joint venture announcements, and their investments are generally worthwhile, whereas firms with poor investment opportunities have negative response and their investments may be wasteful.

I estimate q as the ratio of market value of assets divided by book value of assets,[10] where the market value of assets is book value of assets minus book value of equity plus market value of equity. I collect data for the year prior to announcements from Compustat.

Leverage (LEVERAGE)

Maloney, McCormick, and Mitchell (1993) find that there is a positive relation between announcement-period acquirers' return and their preannouncement leverage. They support the idea that debt works to control agency problems between managers and stockholders and improves managerial decision making. So, the agency explanation predicts that the effect of leverage on announcement abnormal returns of joint ventures is positive.

[10] In the corporate finance literature, the market-to-book asset ratio is often used as a proxy for Tobin's q (e.g., Bris and Cabolis, 2008; Masulis, Wang and Xie, 2007; Moelle, Schlingemann, and Stulz, 2004).

Leverage is measured as long-term debt over book value of asset. I obtain data for the year prior to announcements from Compustat.

Firm size (FIRMSIZE)

Moeller, Schlingemann, and Stulz (2004) document a negative relation between firm size and gains from acquisitions. They find that the abnormal return associated with acquisition announcements for small acquirers is higher than that from large acquirers and suggest that evidence is consistent with managerial hubris playing more of a role in large firms' decisions. Therefore, the hubris explanation predicts a negative relation between abnormal returns at joint venture announcements and firm size. Mittoo and Chung (2002) also find that smaller US firms earn larger abnormal returns around the announcements of their Chinese joint ventures.

In contrast, Chen, Hu, and Shieh (1991) suggest that a US multinational's excess value is positively related to its size because large firms have the ability to explore long-term advantages and absorb start-up costs in China. Larger firms have better bargaining power when they invest in China and are expected to be more profitable than smaller firms (Gleason et al., 2002). If a joint venture is unsuccessful, a larger firm is better able to survive the losses (Denning et al., 2006).

The size of US firms is measured by the natural log of total assets. Data is collected from Compustat for the year before announcements.

Corporate governance variables

Governance Index (GINDEX)

Gompers, Metrick, Ishii (2003) construct a governance index (G-index) as a proxy for the balance of power between managers and shareholders using 24 distinct corporate-governance provisions. The governance index is constructed by adding one

point for every provision that reduces shareholder rights. Higher index levels correspond to more management power and weaker shareholder rights. They find firms with lower G-index (stronger shareholder rights) have higher stock returns, higher firm value, and better operation performance. They consider three explanations for these results, and find some evidence that weaker shareholder rights cause additional agency costs and poor corporate performance. Masulis, Wang, and Xie (2007) find that acquisition announcements by firms with higher G-index experience lower abnormal acquirer returns. They suggest that managers at firms with a higher G-index are more likely to indulge in unprofitable acquisitions. This is consistent with one of three explanations proposed by Gompers, Metrick, Ishii (2003), that weaker shareholder rights generate additional manager-shareholder agency costs. Therefore, the agency explanation predicts a negative relation between abnormal returns and the G-index.

I obtain the G-index data prior to announcement dates from RiskMetrics (formerly IRRC) Governance database. The database covers eight publication years: 1990, 1993, 1995, 1998, 2000, 2002, 2004, and 2006. Following Gompers, Metrick, Ishii (2003), for years between two consecutive publication years, I use the data for the previous publication year.

Institutional ownership (INSTITUTIONOWN)

Joint ventures are investments made by managers, so they may or may not maximize shareholders' wealth (Frohls et al., 1998). Park and Kim (1997) show that US partners with higher institutional ownership report higher abnormal returns around joint venture announcements. They suggest that institutional ownership becomes a disciplinary mechanism to press top managers to pursue strategies that can improve shareholder returns. The agency explanation predicts a positive effect of institutional

ownership on abnormal returns upon joint venture announcements. However, the insignificant effect of institutional ownership on acquirer returns is reported by Masulis, Wang and Xie (2007).[11]

Institutional ownership is defined as shares held by institutions divided by shares outstanding. The level of institutional ownership is measured at the end of the calendar quarter preceding the joint venture announcement. I obtain institutional holdings data from Thomson Reuters CDA/Spectrum Institutional (13f) Holdings database, and sum shares held by all institutions to get the aggregated institutional holdings. Shares outstanding data are collected from CRSP.

Insider ownership (INSIDEROWN)

Lewellen, Loderer, and Rosenfeld (1985) show that low management ownership in bidder firms is associated with lower abnormal returns from acquisitions. They suggest that management ownership helps align the interests of managers and shareholders, and that managers who hold a large percent of their own company's stock are less likely to make acquisitions that reduce shareholder wealth. Insider ownership has a positive effect on abnormal returns, according to the agency explanation.

However, intentions of overconfident CEOs and other managers are consistent with those of shareholders. They simply misperceive the situation, and higher insider ownership as an incentive to increase shareholder value does not help them make a better decision, probably "perpetuat[ing] their distorted behavior".[12]

[11] Masulis, Wang and Xie (2007) find that percentage ownership by a firm's largest institutional blockholder has an insignificant positive effect on CAR, and that percentage ownership by 18 public pension funds has an insignificant negative effect on CAR. They suggest that public pension fund activism does not increase shareholder value.

[12] "CEO hubris distorts investment decisions," Stanford GSB News, December 2005.

Following Doidge, Karolyi, and Stulz (2007), Himmelberg, Hubbard, and Love (2002), I measure insider ownership by using the "closely held shares percentage"[13] variable taken from the Worldscope database for the days before announcements.

Combined CEO-chair (CEOCHAIR)

Both hubris and agency explanation predict a negative effect of CEO-chair duality. The major responsibilities of the board of directors include advising, monitoring managers and approving major corporate decisions (Masulis, Wang, and Xie, 2007). Jensen (1993) points out that "For the board to be effective, it is important to separate the CEO and chairman positions." Hayward and Hambrick (1997) find that the positive relationship between CEO hubris and acquisition premiums is accentuated when the board lacks vigilance. They use the CEO-chairman duality as an indicator of weak board vigilance, suggesting that the boards best able to resist CEOs with hubris have board chairs other than the CEO. Masulis, Wang, and Xie (2007) find that the CEO-chair duality has a significant negative effect on announcement returns of bidders. They suggest that the CEO-chair separation can help to rein in empire-building acquisitions by CEOs and lead to greater shareholder wealth.

I define the combined CEO-chair as a dummy variable. When the CEO is also the chair of the board of directors, it equals one. When the CEO and chair are not the same individual, it equals zero. I collect data from RiskMetrics (formerly IRRC) Directors database. Since RiskMetrics only covers the years 1996-2006, I collect data

[13] Worldscope defines closely held shares as representing shares held by insiders. This includes shares held by officers, directors and their immediate families; shares held by individuals who hold 5% or more of outstanding shares; shares held in trust; shares held by pension/benefit plans, and any other corporation. Worldscope defines closely held shares percentage as the number of closely held shares over common shares outstanding.

for other years from Compustat Executive Compensation or company proxy statements.[14]

1.5.2 Regression results

Summary statistics of all regression variables are presented in Table 1.5. The mean of firm size, Tobin's q, leverage, free cash flow, and governance index is close to that of US acquirers reported in Masulis, Wang, and Xie (2007). The mean of insider ownership of my sample (9.51%) is close to 7.94% for a sample of US firms on the Worldscope database reported in Dahlquist, Pinkowitz, Stulz, and Williamson (2003). The average of institutional ownership in my sample is 61.57%, which is similar to the percentage (60%) reported by Harford, Mansi, and Maxwell (2008) for their sample of US firms. The CEO is also the chairman of the board 84% of the time, which is broadly similar to the mean of 75.6% in Core, Holthausen, and Larcker (1999) and 86% in Rajgopal, Shevlin, and Zamora (2006). These suggest that my sample is representative.

Table 1.5: Summary statistics for the variables used in the analysis

	Mean	Median	Standard Deviation	25%	75%
Firm size	9.33	9.16	1.75	8.12	10.48
Tobin's q	1.78	1.53	1.14	1.23	1.95
Leverage	0.18	0.17	0.10	0.12	0.23
Free cash flow	0.03	0.03	0.05	0.01	0.06
Recent performance	-0.19	-0.16	0.30	-0.36	-0.008
Governance index	9.10	9.00	2.90	7	12
Institutional ownership	61.57	62.44	15.41	52.64	71.95
Insider ownership	9.51	1.48	15.23	0.27	13.22
Combined CEO-chair	0.84	1	0.36	1	1

[14] I obtain companies' historical proxy statements through the SEC's EDGAR database or Thomson ONE Banker.

The Pearson correlation matrix is shown in Table 1.6. These correlations provide preliminary support for managerial hubris. CAR is significantly negatively correlated with recent performance.

Table 1.6: Pearson correlation matrix for regression variables

CAR is the cumulative abnormal returns over event window [-2, +2]. FIRMSIZE is the natural log of total assets. TOBINQ is the ratio of market value of assets divided by book value of assets. LEVERAGE is the long-term debt over book value of the asset. FCF is free cash flow, measured as operating income before depreciation, minus interest expenses, minus income taxes, minus capital expenditures, and then scaled by book value of total assets. RECENTPERFORM is the recent performance, measured as the 12-month cumulative abnormal return above the equally weighted index prior to day -11. GINDEX is the governance index. INSTITUTIONOWN is the Institutional ownership which equals shares held by institutions divided by shares outstanding. INSIDEROWN is the insider ownership using "closely held shares percentage" from the Worldscope database. CEOCHAIR is a dummy variable that equals 1 when the chairman of board and CEO are the same individual and 0 otherwise. P-values are shown in parentheses under correlations.

Variable	CAR	FIRM SIZE	TOBI NQ	LEVER AGE	FCF	RECE NTPE RFOR M	GIND EX	INSTI TUTI ONO WN	INSIDE ROWN
FIRMSIZE	0.057								
	(0.40)								
TOBINQ	-0.027	-0.081							
	(0.69)	(0.23)							
LEVERAGE	-0.004	-0.067	-0.192						
	(0.94)	(0.32)	(0.00)						
FCF	-0.092	-0.353	0.632	-0.161					
	(0.18)	(0.00)	(0.00)	(0.01)					
RECENTPERFO RM	-0.237	0.013	0.051	0.052	0.089				
	(0.00)	(0.84)	(0.45)	(0.44)	(0.19)				
GINDEX	-0.063	-0.367	-0.004	-0.076	0.173	-0.015			
	(0.35)	(0.00)	(0.95)	(0.27)	(0.01)	(0.82)			
INSTITUTIONO WN	-0.155	-0.144	-0.001	0.057	0.063	0.258	0.292		
	(0.02)	(0.03)	(0.97)	(0.40)	(0.35)	(0.00)	(0.00)		
INSIDEROWN	-0.002	-0.286	-0.056	0.088	0.026	-0.002	-0.173	-0.248	
	(0.97)	(0.00)	(0.41)	(0.20)	(0.69)	(0.97)	(0.01)	(0.00)	
CEOCHAIR	0.019	0.118	0.041	0.050	-0.056	-0.165	-0.063	-0.075	-0.046
	(0.77)	(0.08)	(0.55)	(0.46)	(0.41)	(0.01)	(0.36)	(0.27)	(0.50)

A more definitive test requires cross-sectional regression analysis, as presented in Table 1.7. The dependent variable is the CAR for the event window [-2, +2]. Regression model 1 includes only three control variables, none of them significant. Model 4 adds the hubris variable (recent performance), adjusted-R^2 increases to 4.19%. I find that the hubris variable has a coefficient of -3.334 with a t-statistic of -3.51, significant at the 1% level. Model 7 also includes free cash flow and four corporate governance variables. None of them has a significant effect on CAR, but the hubris variable still has a significant negative coefficient of -2.909.

Table 1.7: Cross-sectional regression analysis

This table reports regressions of cumulative abnormal return from 2 days before to 2 days after the announcement (CAR [-2, +2]) in percentage points on US partners' characteristics and corporate governance variables. In parentheses are White heteroskedasticity-consistent t-statistics. ***, ** and * indicate 1%, 5% and 10% significance, respectively.

Independent variable	(1)	(2)	(3)	(4)	(5)	(6)
Constant	-0.896	-0.121	3.643	-1.911	1.046	1.518
	(-0.48)	(-0.06)	(1.16)	(-1.04)	(0.33)	(0.48)
Firm size	0.132	0.045	-0.044	0.145	0.064	0.006
	(0.79)	(0.25)	(-0.22)	(0.89)	(0.33)	(0.03)
Tobin's q	-0.088	0.168	0.136	-0.030	-0.051	0.130
	(-0.34)	(0.50)	(0.40)	(-0.12)	(-0.20)	(0.39)
Leverage	-0.218	-0.547	-0.177	0.44	0.461	0.241
	(-0.07)	(-0.19)	(-0.06)	(0.15)	(0.16)	(0.08)
Free cash flow		-9.118	-8.559			-6.458
		(-1.20)	(-1.12)			(-0.86)
Recent performance				-3.334***	-2.991***	-2.909***
				(-3.51)	(-3.01)	(-2.91)
Governance index			-0.018		-0.048	-0.040
			(-0.16)		(-0.42)	(-0.35)
Institutional ownership			-0.043**		-0.025	-0.026
			(-2.11)		(-1.23)	(-1.24)
Insider ownership			-0.012		-0.007	-0.007
			(-0.55)		(-0.33)	(-0.34)
Adjusted-R^2	-1.06%	-0.85%	0.03%	4.19%	3.73%	3.6%

Table 1.7 (continued)

Independent variable	(7)	(8)	(9)
Constant	1.742	1.036	1.625
	(0.54)	(0.33)	(0.51)
Firm size	0.014	0.015	0.042
	(0.07)	(0.08)	(0.21)
Tobin's q	0.143	0.185	0.239
	(0.43)	(0.56)	(0.72)
Leverage	0.354	0.341	0.710
	(0.12)	(0.12)	(0.25)
Free cash flow	-6.614	-8.556	-9.482
	(-0.88)	(-1.15)	(-1.27)
Recent performance	-2.988***	2.594	3.516
	(-2.95)	(1.06)	(1.39)
Governance index	-0.040	-0.017	-0.014
	(-0.35)	(-0.16)	(-0.13)
Institutional ownership	-0.026	-0.024	-0.024
	(-1.25)	(-1.18)	(-1.20)
Insider ownership	-0.007	-0.008	-0.009
	(-0.35)	(-0.40)	(-0.44)
Combined CEO-chair	-0.396		-1.222
	(-0.48)		(-1.43)
Recent performance × Combined CEO-chair		-6.304**	-7.639***
		(-2.46)	(-2.80)
Adjusted-R^2	3.23%	5.96%	6.44%

To test whether the relation between the source of managerial hubris and CAR is strengthened when board vigilance is weak, I add the interaction term of "recent performance" and "combined CEO-chair" in regression models 8 and 9. The coefficient is significantly negative. When there is a combination of managerial hubris and combined CEO-chair, CAR is particularly low. These results are consistent with the finding for acquisitions in Hayward and Hambrick (1997).

Overall, the results show that the worst joint venture investments are made by firms with the best recent performance, and suggest that managerial hubris tends to

damage shareholder returns. The results also suggest that an independent and vigilant board may resist the detrimental effect of managerial hubris. There is no evidence that agency problems significantly lower shareholder abnormal returns upon joint venture announcements.

1.6 Further evidence on managerial hubris

1.6.1 CAR for high hubris vs. low hubris firms

I partition US partners into quintiles based on the hubris variable (12-month preannouncement CAR) as Lin et al. (2008). Q1 is the low hubris quintile and Q5 is the high hubris quintile. Then I conduct event studies for Q1 and Q5 firms. Results are reported in Table 1.8. Low hubris US firms significantly gain, CAR for [-2, +2], [-5, +5] and [-10, +10] are 1.81%, 1.91% and 4.11% respectively, while high hubris US firms significantly lose on the announcement of joint ventures, CAR[-10, +10] is -2.6%. Low hubris firms significantly outperform high hubris firms in the event period. For the [-2, +2] window, the difference is 2.31% and significant at the 5% level. For the [-10, +10] window, the difference is 6.71%, and significant at the 1% level.

Table 1.8: CAR for high hubris vs. low hubris US firms

US partners are ranked by 12-month preannouncement CAR. Z-statistics are reported in parentheses below the mean CAR. T-statistics and associated p-values are reported for differences between low hubris firms (Q1, quintile 1) and high hubris firms (Q5, quintile 5). ***, ** and * indicate 1%, 5% and 10% significance, respectively.

CAR interval	Low hubris Q1	High hubris Q5	Q1-Q5	t-test	Pr>| t |
CAR [0, +1]	0.54	0.51	0.03	0.03	0.9730
	(1.195)	(1.517)			
CAR [-1, +1]	0.45	0.50	-0.05	-0.06	0.9557
	(0.877)	(0.824)			
CAR [-2, +2]	1.81***	-0.50	2.31**	2.50	0.0145
	(2.662)	(-0.415)			
CAR [-5, +5]	1.91**	-0.31	2.22	1.47	0.1450
	(2.054)	(-0.085)			
CAR [-10, +10]	4.11***	-2.60**	6.71***	3.38	0.0011
	(2.941)	(-2.029)			

1.6.2 Managerial hubris and trading volume

Differences of opinion or interpretation about public announcements among investors can generate high trading volume (Harris and Raviv, 1993; Kandel and Person, 1995). Doukas and Petmezas (2007) propose that if investors construe that managerial overconfidence increases uncertainty about the future prospects of an investment, trading volume should increase around announcements due to intensified differences of opinion among investors. I examine and compare the abnormal trading volume around announcements by high hubris firms and low hubris firms in Table 1.9. Cumulative abnormal trading volume around announcements for high hubris firms is 77.60% and statistically significant at 1% during the event window [-2, +2], while abnormal trading volume for low hubris firms is 5.26% and not significant. My results are consistent with results from Doukas and Petmezas (2007) and further support the hubris-driven inefficient joint venture investments.

1.7 Summary and Conclusions

This paper pioneers in establishing the relation between Roll's well-known hubris theory and international joint venture investments. The results are consistent with the Malmendier and Tate's (2008) argument that "managerial overconfidence can account for corporate investment distortions."

The results in this paper provide valuable insights for corporate managers who are currently in charge of well-performing companies and plan to invest abroad. Initiation of foreign joint ventures must be taken with very careful evaluation instead of acting on their own past success, or the hubris and overconfidence stemming from past success. As results suggest, if hubris can be curbed, joint ventures abroad bring significant gains to US shareholders.

Table 1.9: Trading volume around joint venture announcements for the whole sample, high hubris firms (Q5) and low hubris firms (Q1)

Abnormal trading volumes are generated as the differences between trading volume and the mean of daily volume for that stock over the window (-170, -21) normalized by the mean volume. Following Brown and Warner (1980), a t-test is applied to examine the significance of the standardized mean abnormal trading volume. ***, ** and * indicate 1%, 5% and 10% significance, respectively.

Average abnormal relative volume (%)						
Event day or window	All	T-stat	High hubris	T-stat	Low hubris	T-stat
-10	0.88	0.327	3.67	0.590	1.43	0.269
-9	3.46	1.280	7.15	1.149	8.78	1.652*
-8	1.62	0.599	5.22	0.840	3.00	0.565
-7	0.29	0.109	5.34	0.858	2.07	0.390
-6	-1.78	-0.659	-4.22	-0.678	0.95	0.179
-5	0.37	0.137	1.94	0.311	3.17	0.595
-4	-0.39	-0.145	3.12	0.502	6.20	1.167
-3	4.86	1.797*	8.11	1.304	15.41	2.898***
-2	-0.39	-0.145	5.07	0.815	-1.15	-0.216
-1	6.30	2.329**	20.23	3.252***	-2.70	-0.507
0	5.37	1.986**	8.52	1.371	4.71	0.887
+1	8.87	3.281***	27.90	4.486***	-0.61	-0.115
+2	3.91	1.445	15.88	2.553**	5.00	0.940
+3	3.10	1.148	10.90	1.753*	4.02	0.755
+4	2.18	0.808	9.00	1.447	-1.82	-0.343
+5	0.12	0.046	5.93	0.954	-4.75	-0.894
+6	0.54	0.202	4.66	0.749	-1.22	-0.230
+7	5.79	2.141**	12.16	1.956*	-3.04	-0.571
+8	2.72	1.006	11.24	1.808*	-9.00	-1.693*
+9	4.41	1.633	4.66	0.749	2.90	0.545
+10	3.65	1.350	-2.70	-0.435	1.76	0.330
[0, +1]	14.24	3.724***	36.43	4.141***	4.10	0.546
[-1, +1]	20.54	4.385***	56.65	5.259***	1.41	0.153
[-2, +2]	24.05	3.978***	77.60	5.580***	5.26	0.442
[-5, +5]	34.31	3.825***	116.60	5.653***	27.48	1.558
[-10, -3]	9.31	1.218	30.33	1.724*	41.02	2.728***
[+3, +10]	22.53	2.946***	55.85	3.175***	-11.16	-0.742

The paper also provides important implications for corporate governance. "Incentive compatible" corporate governance mechanisms that help to reduce agency

problems and align interests between mangers and shareholders are not helpful for alleviating problems caused by managerial hubris, because overconfident managers think that they are acting in the interest of shareholders. An independent and vigilant board of directors is important in investment selection and evaluation to counterbalance CEO overconfidence and managerial hubris and achieve first-best investment (Malmendier and Tate, 2008).

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CHAPTER 2

SHAREHOLDER VALUE OF INTERNATIONAL JOINT VENTURES, INDUSTRIAL DIVERSIFICATION AND PARTNER RELATEDNESS

2.1 Introduction

The idea of the paper is motivated by two streams in the literature.

The first of these streams involves the effect of industrial diversification on shareholder value. Many papers examine this issue in the context of domestic corporate decisions such as acquisitions, divestitures, spinoffs, equity offerings, and so on. Other papers do so in the context of foreign direct investments, but focus on international acquisitions or Greenfield FDI.[15] No paper has systematically investigated this effect in the context of international joint venture investments, one of three main modes of FDI. At this time, there is no consensus in empirical findings concerning the effect of the industrial diversification on shareholder value.

The second involves the shareholder value of international joint ventures, particularly how partner business relatedness influences the value creation of IJVs for joint venture partners. Several papers investigate the effect of business relatedness of joint venture partners on the shareholder value of JV partners, but provide mixed empirical results. Partner participation is a unique feature for joint venture investments, and is not relevant to other types of FDI, such as Greenfield FDI and international acquisitions.

Motivated by the literature, I use a comprehensive database to study the following questions: What is the effect of industrial diversification on shareholder

[15] Foreign direct investment (FDI) includes three main modes: international acquisitions, international joint ventures, and Greenfield FDI.

value in the context of IJV investments? What is the effect of the partner business relatedness on the shareholder value of IJV partners?

In this paper, I employ the SDC database to study the shareholder value of US firms that made international joint venture announcements during the 1999-2008 period. I examine whether IJV investments are more profitable for US firms that expand their core businesses than those that expand their non-core businesses. I also investigate whether the shareholder value of US partners is affected by their business relatedness with corresponding foreign partners.

The main findings of the paper are: (1) In general, shareholders in US firms realize positive and significant abnormal returns upon their IJV announcements. (2) Diversifiying IJV investments is associated with a larger gain in the shareholder value of US partners than focused IJV investments, on average.[16] (3) Partner business relatedness has a negative effect on US shareholder value for diversifying IJV investments, but does not influence US shareholder value for focused IJV investments. (4) IJV investments are expected to create the highest value for US partners when all three entities (US partner, foreign partner, and IJV) operate in different core businesses.

The remainder of this paper is structured as follows. Section 2.2 reviews related literature. Sample selection and description are in Section 2.3. Section 2.4 discusses methodology and empirical results for shareholder value upon IJV announcements. Section 2.5 summarizes and concludes the paper.

2.2 Literature review

2.2.1 Industrial diversification and shareholder value

[16] In Doukas and Lang (2003) and this paper, the term "diversifying" represents industrial diversification, not geographic diversification of investments.

In this section, I focus on the literature of domestic industrial diversification and shareholder value. The section that follows will discuss papers about industrial diversification and shareholder value in the context of foreign direct investments.

Morck, Shleifer, and Vishny (1990) study a sample of US acquisitions between 1975 and 1987. They classify acquisitions into related acquisitions and unrelated acquisitions. If the bidder and the target have a 4-digit SIC code in common among their top three businesses, acquisitions are classified as related acquisitions. They find that the abnormal returns for unrelated acquisitions are significantly negative and lower than related acquisitions in the 1980s, but returns in related and unrelated acquisitions are not statistically different from those in the 1970s. They suggest that diversification may serve the objectives of managers at the cost of reducing shareholder value.

Matsusaka (1993) examines the stock market response to a sample of acquisition announcements from New York Stock Exchange listing statements during the late 1960s and early 1970s. He divides acquisitions into two groups, and defines an acquisition as a "diversification acquisition" if the acquirer and target don't have a two-digit SIC code in common. An acquisition is defined as a "related acquisition" if the acquirer and target do share a two-digit SIC code. He finds that acquirers earn a positive and significant return of 1.23% in the announcement period when they make diversification acquisitions. The abnormal return for related acquisitions is 0.35% and not significant.

Some papers show that the stock market tends to react favorably to corporate decisions that increase corporate focus. Daley, Mehrotra, and Sivakumar (1997) investigate excess returns around spinoff announcements. They divide spinoffs into two subsamples. When the spunoff unit is in a different two-digit SIC code from the core business of the pre-spinoff firm, it is in the subsample of cross-industry spinoffs.

When the spunoff unit is in the same industry, it is classified as an own-industry spinoff. Cross-industry spinoffs are associated with an increase in corporate focus. They find that the mean CAR (cumulative abnormal return) over [-1, 0] is 4.3% and significant at the 1% level for cross-industry spinoffs, and that CAR [-1, 0] is 1.4% and insignificant. They suggest that spinoffs create value through removing non-core businesses and allowing managers to focus on core businesses. John and Ofek (1995) analyze stock market reactions to divestiture announcements and find that the abnormal return to the seller is greater for focus-increasing divestitures. A divestiture is defined as focus-increasing if the 4-digit SIC code of the divested division is different from the primary 4-digit code of the seller. Markides (1992) examines stock market reaction to corporate refocusing announcements during 1980-1988. The mean two-day CAR is 1.73% and significant. They classify sample firms into the overdiversified group and the not overdiversified group. They find that the overdiversified group has a highly significant CAR and the not overdiversified group has an insignificant CAR, and suggest that the relationship between diversification and profitability is curvilinear. The relationship is positive at low levels of diversity and becomes negative when a firm's diversification is beyond its optimal level.

Hyland and Diltz (2002) examine announcement returns of firms that diversify through acquisition and internal growth during 1978-1992. They find that abnormal announcement return is positive and significant and suggest that diversification events are not associated with value destruction. They also find that diversifiers with higher ratios of research and development expenditure to assets have higher announcement returns, and suggest that those diversifiers are able to exploit R&D advantages in operations that are new to them.

Hadlock, Ryngaert, and Thomas (2001) provide evidence of the beneficial effect of industrial diversification on equity offerings. They study a sample of equity

issues during 1983-1994, and find that the market reaction to equity issue announcements is less negative for diversified firms than for focused firms. They suggest that because errors the market makes in valuing unrelated segments of a company are imperfectly related, errors are generally smaller for a diversified company than for a focused company. Diversification improves access to the market for external capital.

2.2.2 Shareholder value of foreign direct investments and industrial diversification

Firms engage in foreign direct investments through three main modes: international acquisitions, international joint ventures, and Greenfield FDI. How does industrial diversification influence the shareholder value of different modes of foreign direct investments? This section reviews several papers that attempt to answer this question. Most papers in this literature examine the effect of industrial diversification on shareholder value of international acquisitions.

Doukas and Lang (2003) study the effect of industrial diversification on shareholder value of FDI using a sample of US firms that made Greenfield FDI announcements during the period 1980-1992. Theirs is the first study of the valuation effect of Greenfield FDI. They define investments within the firm's main four-digit SIC code as focused investments, and investments outside the primary four-digit SIC code as diversifying investments.[17] The three main findings in their paper are as follows. First, the 2-day [-1, 0] average abnormal return for focused investments is 0.24% and significant at the 10% level, the [-1, 0] abnormal return for diversifying investments is -0.38% and significant at the 5% level, and the return difference between the two types of investment is significant at the 5% level. This suggests that

[17] Doukas and Lang (2003) use focused, related, and core-related interchangeably. They also use diversifying, non-core-related, and unrelated interchangeably. Since I incorporate partner business relatedness into my paper, the terms focused and related are not interchangeable in it.

core-related Greenfield FDI is beneficial to shareholder value, but non-core-related Greenfield FDI could lead to operation inefficiencies and have a negative effect on firm value. Second, the gain from focused Greenfield FDI is greater for multi-segment than single-segment firms, which suggests that focused Greenfield FDI has positive effects on the non-core business of a firm, as well. Third, the loss from diversifying Greenfield FDI is larger for single-segment than multi-segment firms. They suggest that single-segment firms are probably on a survival path because they have exhausted their domestic core-business competencies when they make non-core-related investments, and that multi-segment firms are capable of handling the risks of new business.

Doukas and Travlos (1988) analyze US companies engaged in international acquisitions from 1975-1983. They find that the effect of the industrial diversification on US bidding firms' [-1, 0] abnormal returns is positive but not statistically significant. Markides and Ittner (1994) investigate the effect of 276 US international acquisitions made in 1975-1988 on the shareholder value of US bidding firms, with findings different from those of Doukas and Travlos (1988). They find that the two-day [-1, 0] abnormal return for related acquisitions is 0.55% with a t-statistic of 2.86, while the corresponding abnormal return for unrelated acquisitions is -0.87% with a t-statistic of -3.08. They suggest that related acquisitions are associated with higher benefits and lower integration costs than unrelated acquisitions.

Guo, Keown, and Sen (2001) study the stock market reaction of both American and Japanese firms to public announcements of international mergers, acquisitions, and joint ventures during 1980-1991. They find that, on average, both American and Japanese firms experience a significant positive reaction to announcements. Then they compare stock market reaction to focused combinations versus non-focused combinations. For American firms, the announcement day abnormal return of focused

combinations is 8.0% and significant, and the abnormal return of non-focused combinations is 2.8% and significant. In contrast, for Japanese firms, the abnormal return on day 0 of focused combinations is -0.1% and not significant, but the day 0 abnormal return of non-focused combinations is positive and significant. Further analysis shows that the positive and significant reaction to non-focused combinations is only for Japanese Keiretsu firms. This suggests that the Keiretsu membership controls costs of diversification resulting from overinvestment in negative NPV projects and subsidization of poorly performing business segments, allowing for benefits of diversification.

Studying a sample of announcements of international joint ventures over January 1986 to December 1990, Merchant and Schendel (2000) find a positive and significant relationship between partner-joint venture business relatedness and value creation of US partners upon announcements. They suggest that stock markets expect partner firms to benefit from joint ventures that yield greater economies of scale.

2.2.3 Shareholder value of joint ventures and partner relatedness

What is the effect of partner business relatedness on shareholder value of joint ventures? The literature provides a mixed answer. Koh and Venkatraman (1991) find that partner relatedness increases the shareholder value of a partner. Balakrishnan and Koza (1993), Reuer and Koza (2000), and Johnson and Houston (2000) suggest that partner relatedness decreases shareholder value. Merchant and Schendel (2000) do not find a statistically significant relation between the shareholder value of joint ventures and partner relatedness. This section reviews each paper mentioned above.

Koh and Venkatraman (1991) focus on joint ventures announced in the information technology sector over the 1972-86 period. They analyze abnormal returns in the announcement period [-1, 0] of the related partner subgroup and the

unrelated partner subgroup. The abnormal return for the related partner subgroup is 1.05% and significant at the 1% level, whereas the abnormal return for the unrelated partner subgroup is 0.12% and not statistically significant. They suggest that joint ventures involving related partners are more productive for partners than those involving unrelated partners considering the potential costs and difficulties in getting unrelated partners to work together efficiently.

Balakrishnan and Koza (1993) study investor reactions to joint venture announcements using a sample of joint ventures from 1974-1977. They divide joint ventures into "monopoly portfolio" and "non-monopoly portfolio" based on the SIC code of partners' primary businesses. For joint ventures in the monopoly portfolio, businesses of joint venture partners are within the same 4 or 3 digit SIC code. The abnormal return for the monopoly portfolio is positive but insignificant, while the abnormal return for the non-monopoly portfolio is positive and significant at the 0.01 level. The difference between the abnormal returns of the two sub-samples is statistically significant at the 0.01 level. This suggests that investors will react more favorably to joint venture announcements when the primary business operations of joint venture partners are dissimilar. It is difficult for partners in dissimilar businesses to appraise the value of each other's assets in acquisitions, and the joint venture is an efficient mechanism for pooling complementary assets.

Reuer and Koza (2000) study abnormal returns from joint venture formation using a sample of 297 domestic and international joint ventures. They test and support the "asymmetric information perspective" on joint ventures. The "asymmetric information perspective" posits that joint ventures are attractive vehicles for reducing costs and the uncertainty of valuing complementary assets in acquisitions. This suggests that the stock market responds favorably when partner firms operate in different industries and there is asymmetric information between partners. They

classify joint ventures into one of four information asymmetry groups based on the joint venture and partner firms' industries at the three-digit SIC level. In group 1, both partner firms and the joint venture are in the same industry. In group 2, partner firms are in the same industry, but the joint venture is in a different industry. For group 3, the joint venture operates in the industry of only one partner. For group 4, the two partners in the joint venture operate in different industries. Their empirical results show that the shareholder value of joint venture formation announcements are negative or insignificant for joint ventures in groups 1 and 2, and positive and significant for joint ventures in groups 3 and 4, involving information asymmetry. These results also hold when they analyze the domestic and international joint ventures respectively.

Johnson and Houston (2000) examine the shareholder value of joint venture announcements in *The Wall Street Journal* from 1991-1995. They distinguish joint ventures as horizontal joint ventures and vertical joint ventures. Partner firms are in horizontal relationships if they have the same two-digit SIC codes, and partner firms are in vertical relationships if they have different two-digit SIC codes. They find that there are positive and significant abnormal returns for announcements of horizontal joint ventures, and suggest that horizontal joint ventures create synergistic gains for partner firms. Abnormal returns for vertical joint venture announcements are also positive and significant, and higher than abnormal returns for horizontal joint ventures. This suggests that vertical joint ventures are viewed favorably by stock markets because they represent a partial combination of partners' resources and avoid the value-reducing problems associated with the full integration of dissimilar partners.

Merchant and Schendel (2000) study a sample of announcements of joint ventures involving US firms and non-US partners from January 1986 to December 1990. They didn't find a statistically significant effect of partner-partner business

relatedness on the US partner's abnormal returns around JV announcements. They suggest that the advantages of partnering with related firms may be neutralized by higher costs of managing joint venture partners who are also direct competitors.

2.3 Sample selection and description

The sample in this study consists of US firms that announced joint ventures in foreign countries. The time period for the study spans 10 years from 1999 to 2008. The sample is collected from the Thomson Financial SDC platinum joint ventures database. This database includes worldwide joint venture information from sources such as the US Securities and Exchange Commission (SEC) filings and their international counterparts, trade publications, wires and news sources. Each IJV in my sample is formed between one US firm and one foreign firm. US firms are traded on the NYSE, AMEX or NASDAQ. The daily stock returns of US companies making IJV announcements have to be available from the Center for Research in Security Prices (CRSP). The final sample yields 1042 IJV announcements.

Table 2.1: Sample distribution of IJV announcements by year

Year	Number of announcements	Percent of sample
1999	193	18.54
2000	206	19.79
2001	107	10.28
2002	83	7.97
2003	46	4.42
2004	41	3.94
2005	74	7.11
2006	78	7.49
2007	97	9.32
2008	116	11.14
Total	1042	100.00

Table 2.1 shows the frequency of IJVs in terms of their year of announcements. For the past 10 years, the largest number of IJV announcements in

one year is 206 (19.79%) in 2000, followed by 193 (18.54%) in 1999. The number of IJV announcements falls sharply from 2000 till 2004, but increases steadily afterward.

Table 2.2: Sample distribution of IJV announcements by IJV host country

IJV host country	Frequency	Percent	IJV host country	Frequency	Percent
Algeria	1	0.10	Morocco	1	0.10
Argentina	4	0.38	Neth Antilles	1	0.10
Australia	38	3.65	Netherlands	13	1.25
Austria	2	0.19	New Zealand	4	0.38
Bahamas	1	0.10	Nicaragua	1	0.10
Bahrain	1	0.10	Nigeria	1	0.10
Belgium	6	0.58	Norway	4	0.38
Bermuda	3	0.29	Pakistan	1	0.10
Brazil	32	3.07	Panama	1	0.10
British Virgin	1	0.10	Paraguay	1	0.10
Canada	33	3.17	Peru	2	0.19
Chile	4	0.38	Philippines	7	0.67
China	234	22.48	Poland	1	0.10
Colombia	3	0.29	Portugal	2	0.19
Costa Rica	1	0.10	Qatar	2	0.19
Czech Republic	4	0.38	Romania	3	0.29
Denmark	1	0.10	Russian Fed	25	2.40
Dominican Rep	1	0.10	Saudi Arabia	11	1.06
Ecuador	1	0.10	Serbia & Mont.	1	0.10
Egypt	2	0.19	Singapore	17	1.63
Finland	4	0.38	Slovak Rep	1	0.10
France	14	1.34	South Africa	12	1.15
Germany	32	3.07	South Korea	34	3.27
Greece	2	0.19	Spain	6	0.58
Hong Kong	25	2.40	Sri Lanka	2	0.19
Hungary	1	0.10	Surinam	1	0.10
India	85	8.17	Sweden	8	0.77
Indonesia	8	0.77	Switzerland	8	0.77
Ireland-Rep	5	0.48	Taiwan	13	1.25
Israel	3	0.29	Thailand	11	1.06
Italy	20	1.92	Tunisia	1	0.10
Japan	96	9.22	Turkey	9	0.86
Jersey	1	0.10	United Kingdom	81	7.78
Kuwait	3	0.29	Uruguay	1	0.10
Lithuania	1	0.10	Utd Arab Em	13	1.25
Luxembourg	1	0.10	Uzbekistan	4	0.38
Macau	1	0.10	Venezuela	4	0.38
Malaysia	12	1.15	Vietnam	10	0.96
Mexico	36	3.46	Total	1042	100.00

Table 2.2 reports the distribution of IJVs by country. US firms in the sample invest in 77 foreign countries through the mode of IJVs. Notably, China is the most frequent destination country (22.48%). Other countries in the top 10 destination countries include Japan (9.22%), India (8.17%), the United Kingdom (7.78%), Australia (3.65%), Mexico (3.46%), South Korea (3.27%), Canada (3.17%), Brazil (3.07%), and Germany (3.07%). These countries account for 67.34% of all IJVs. 4 the top 10 countries, China, India, Mexico, and Brazil, are emerging and developing economies, and the six other countries are in the group of advanced economies.[18]

Table 2.3 provides the distribution of US partners, foreign partners, and IJVs by four-digit standard industrial classification (SIC) codes. The sample exhibits a broad range of industries. The most IJVs are formed in information retrieval services (9.86%), followed by prepackaged software (3.77%), motor vehicle parts and accessories (3.48%), security brokers, dealers and flotation companies (2.61%), and management consulting services (2.32%). The largest group of US partners comes from prepackaged software (6.18%), followed by motor vehicle parts and accessories (5.02%), information retrieval services (3.86%), security brokers, dealers, and flotation companies (3.57%), and plastic materials and synthetic resins (2.70%). Most foreign partners come from investors, nec (5.64%), followed by motor vehicles and passenger car bodies (3.79%), telephone communications, except radiotelephone (3.69%), banks (3.01%), and information retrieval services (2.53%).

2.4 Shareholder value of US partners around IJV announcements

2.4.1 Methodology

[18] The International Monetary Fund classifies the world into two major groups: advanced economies, and emerging and developing economies.

Table 2.3: Sample distribution of IJV announcements by primary industry of US partner, foreign partner, and IJV

Four-digit SIC code	Industry	Percent (US partner)	Percent (foreign partner)	Percent (IJV)
1011	Iron ores		0.10	
1021	Copper ores	0.19	0.19	
1041	Gold ores	0.19	0.19	0.19
1081	Metal mining services			0.10
1099	Miscellaneous metal ores, nec			0.19
1221	Bituminous coal and lignite surface mining		0.19	
1241	Coal mining services		0.29	
1311	Crude petroleum and natural gas	1.16	2.33	0.87
1381	Drilling oil and gas wells	0.39	0.19	0.29
1382	Oil and gas field exploration services	0.10	0.19	0.29
1389	Oil and gas field services, nec	0.10	0.10	0.10
1475	Phosphate rock			0.10
1522	Residential construction, nec		0.39	0.10
1541	Industrial buildings and warehouses		0.19	0.10
1542	Nonresidential building construction, nec		0.19	0.19
1623	Water, sewer, pipeline & utility line construction		0.10	0.19
1629	Heavy construction, nec	0.10	0.10	0.39
1731	Electrical work		0.10	0.10
1799	Special trade contractors, nec			0.29
2011	Meat packing plants	0.10	0.10	0.19
2013	Sausages and other prepared meat products		0.10	
2015	Poultry slaughtering and processing	0.68	0.10	0.29
2022	Natural, processed, and imitation cheese			0.10
2023	Dry, condensed, and evaporated dairy products	0.10	0.10	
2026	Fluid milk			0.10
2033	Canned fruits, vegetables, jams, and jellies		0.10	0.29
2035	Pickled fruits and vegetables, salad dressings	0.39		
2041	Flour and other grain mill products	0.10	0.19	
2043	Cereal breakfast foods		0.10	
2044	Rice milling	0.10		
2045	Prepared flour mixes and doughs		0.10	
2046	Wet corn milling	0.10	0.10	0.10
2048	Prepared animal feeds, except for dogs and cats		0.10	
2051	Bread and other bakery products, except cookies		0.10	0.10
2062	Cane sugar refining		0.10	0.10
2066	Chocolate and cocoa products	0.10	0.19	
2067	Chewing gum	0.10		
2074	Cottonseed oil mills	0.10		
2075	Soybean oil mills	0.48		0.29
2082	Malt beverages	0.10	0.10	0.10
2083	Malt		0.19	
2084	Wines, brandy, and brandy spirits	0.19	0.10	
2086	Bottled & canned soft drinks & carbonated waters	0.58	0.10	0.29

Table 2.3 (continued)

2087	Flavoring extracts and flavoring syrups, nec		0.10	
2095	Roasted coffee	0.29	0.19	0.19
2099	Food preparations, nec	0.10	0.19	0.29
2111	Cigarettes	0.19	0.10	0.10
2131	Chewing and smoking tobacco and snuff		0.10	
2211	Broadwoven fabric mills, cotton	0.10	0.39	0.10
2221	Broadwoven fabric mills, manmade fiber and silk	0.10		0.19
2231	Broadwoven fabric mills, wool (including dyeing)	0.19	0.10	
2253	Knit outerwear mills	0.10	0.10	
2269	Finishers of textiles, nec		0.10	0.10
2273	Carpets and rugs		0.10	0.10
2281	Yarn spinning mills		0.19	0.10
2295	Coated fabrics, not rubberized			0.10
2298	Cordage and twine			0.10
2299	Textile goods, nec		0.49	0.19
2311	Men's and boys' suits, coats, and overcoats	0.10		
2321	Men's shirts and nightwear	0.29	0.10	
2326	Men's and boys' work clothing			0.10
2329	Men's and boys' clothing, nec	0.10	0.19	0.10
2331	Women's, misses', & juniors' blouses and shirts	0.10		
2386	Leather and sheep-lined clothing		0.19	
2421	Sawmills and planing mills	0.10	0.10	0.19
2431	Millwork		0.10	
2436	Softwood veneer and plywood	0.10		
2452	Prefabricated wood buildings and components			0.10
2511	Wood household furniture, except upholstered	0.10		
2512	Wood household furniture, upholstered	0.10		
2515	Mattresses, foundations, and convertible beds		0.10	
2519	Household furniture, nec			0.10
2522	Office furniture, except wood	0.10	0.10	0.10
2599	Furniture and fixtures, nec			0.10
2611	Pulp mills		0.10	0.10
2621	Paper mills	0.29	0.39	
2631	Paperboard mills	0.58	0.19	0.29
2653	Corrugated and solid fiber boxes		0.10	0.10
2655	Fiber cans, tubes, drums, and similar products	0.10		0.10
2656	Sanitary food containers, except folding	0.10		
2671	Packaging paper & plastics film, coated & laminated		0.29	0.10
2672	Coated and laminated paper, nec		0.10	
2676	Sanitary paper products	0.10		0.10
2679	Converted paper and paperboard products, nec	0.10		0.10
2711	Newspapers: publishing, or publishing & printing	0.10	0.39	0.10
2721	Periodicals: publishing, or publishing & printing	0.10		
2731	Books: publishing, or publishing & printing	0.29	0.78	0.19
2741	Miscellaneous publishing		0.10	
2752	Commercial printing, lithographic	0.10	0.10	
2754	Commercial printing		0.10	
2759	Commercial printing, nec		0.10	0.10

Table 2.3 (continued)

2813	Industrial gases	0.77	0.10	0.48
2816	Inorganic pigments	0.19		0.10
2819	Industrial inorganic chemicals, nec	2.03	0.87	0.48
2821	Plastics materials and synthetic resins	2.70	1.17	2.13
2822	Synthetic rubber (vulcanizable elastomers)			0.10
2823	Cellulosic manmade fibers		0.19	
2824	Manmade organic fibers, except cellulosic		0.10	0.19
2833	Medicinal chemicals and botanical products		0.10	
2834	Pharmaceutical preparations	1.54	1.55	0.87
2835	In vitro and in vivo diagnostic substances			0.10
2836	Biological products, except diagnostic substances	0.48	0.49	0.39
2841	Soap & other detergents, except specialty cleaners		0.10	0.10
2842	Specialty cleaning and polishing preparations	0.10		
2843	Surface active & finishing agents, sulfonated oils	0.10		
2844	Perfumes, cosmetics, and other toilet preparations	0.19	0.19	0.10
2851	Paints, varnishes, lacquers, & allied products	0.29	0.58	0.68
2869	Industrial organic chemicals, nec	0.77	0.68	0.97
2873	Nitrogenous fertilizers	0.10	0.29	
2874	Phosphatic fertilizers			0.10
2879	Pesticides and agricultural chemicals, nec	0.10		0.10
2891	Adhesives and sealants	0.29		0.10
2892	Explosives		0.10	
2893	Printing ink	0.19		
2895	Carbon black	0.10		
2899	Chemicals and chemical preparations, nec	0.29	1.17	0.68
2911	Petroleum refining	0.48	1.17	0.58
2992	Lubricating oils and greases	0.10		0.19
2999	Products of petroleum and coal, nec		0.10	0.10
3011	Tires and inner tubes	0.48	0.58	0.19
3052	Rubber and plastics hose and belting		0.10	0.19
3069	Fabricated rubber prod, nec	0.10		
3081	Unsupported plastics film and sheet	0.10		0.29
3089	Plastics products, nec	0.10	0.29	0.29
3111	Leather tanning and finishing			0.10
3131	Boot and shoe cut stock and findings	0.10		
3143	Men's footwear, except athletic	0.29		
3144	Women's footwear, except athletic		0.10	
3161	Luggage	0.19		0.10
3172	Personal leather goods, except women's purses	0.10	0.10	0.10
3211	Flat glass	0.19		0.10
3221	Glass containers	0.19	0.10	0.19
3229	Pressed and blown glass and glasswear, nec	0.19	0.19	0.19
3231	Glass products, made of purchased glass		0.10	
3241	Cement, hydraulic		0.29	
3253	Ceramic wall and floor tile			0.10
3272	Concrete products, except block and brick			0.10
3275	Gypsum products	0.19	0.10	0.19
3291	Abrasive products	0.10	0.10	

Table 2.3 (continued)

3292	Asbestos products		0.10	
3296	Mineral wool		0.10	
3312	Steel works, blast furnaces, and rolling mills	0.29	0.68	0.29
3315	Steel wiredrawing and steel nails and spikes			0.10
3316	Cold-rolled steel sheet, strip and bars	0.10		
3317	Steel pipe and tubes	0.19	0.29	0.29
3325	Steel foundries, nec		0.10	0.19
3334	Primary production of aluminum	0.77	0.10	0.10
3341	Secondary nonferrous metals	0.10	0.10	
3351	Rolling, drawing, and extruding of copper	0.10	0.10	0.10
3353	Aluminum sheet, plate, and foil			
3355	Aluminum rolling and drawing, nec		0.10	
3356	Rolling, drawing, & extruding of nonferrous metals	0.10		
3357	Drawing and insulating of nonferrous wire	0.48	0.49	0.68
3365	Aluminum foundries		0.10	0.19
3429	Hardware, nec	0.10		
3441	Fabricated structural metal	0.10		0.10
3443	Fabricated plate work (boiler shops)			0.10
3446	Architectural and ornamental metal work	0.10		
3449	Miscellaneous structural metal work		0.10	
3452	Bolts, nuts, screws, rivets, and washers	0.10		
3462	Iron and steel forgings			0.10
3463	Nonferrous forgings		0.10	0.10
3465	Automotive stampings		0.19	
3469	Metal stampings, nec	0.10		
3479	Coating, engraving, and allied services, nec			0.10
3491	Industrial valves	0.10	0.10	0.10
3493	Steel springs, except wire		0.10	0.10
3498	Fabricated pipe and pipe fittings	0.19		0.10
3499	Fabricated metal products, nec		0.19	
3511	Turbines and turbine generator sets		0.39	0.10
3519	Internal combustion engines, nec	0.39	0.29	0.97
3523	Farm machinery and equipment	0.68	0.10	0.19
3531	Construction machinery and equipment	0.19	0.10	0.19
3532	Mining machinery and equipment, except oil and gas	0.10		0.29
3533	Oil and gas field machinery and equipment	0.87		0.10
3535	Conveyors and conveying equipment	0.10		
3536	Hoists, cranes, monorail systems	0.10	0.10	0.10
3537	Industrial trucks, tractors, trailers, & stackers	0.29	0.49	0.48
3541	Machine tools, metal cutting types	0.19	0.10	
3542	Machine tools, metal forming types			0.10
3548	Electric and gas welding and soldering equipment	0.10	0.10	0.10
3555	Printing trades machinery		0.19	
3556	Food products machinery	0.10		
3559	Special industry machinery, nec	0.19	0.10	0.19
3561	Pumps and pumping equipment	0.29		0.10
3562	Ball and roller bearings	0.39	0.29	0.19
3563	Air and gas compressors		0.10	0.19

Table 2.3 (continued)

3568	Mechanical power transmission equipment, nec	0.10		
3569	General industrial machinery and equipment	0.10	0.19	0.19
3571	Electronic computers	1.74	1.46	0.58
3572	Computer storage devices	0.29		
3575	Computer terminals	0.10	0.19	
3577	Computer peripheral equipment, nec	1.06	0.19	0.10
3579	Office machines, nec	0.19		
3585	Refrigeration and heating equipment	0.48	0.39	0.19
3589	Service industry machines, nec		0.19	0.10
3592	Carburetors, pistons, piston rings, and valves		0.19	0.19
3594	Fluid power pumps and motors	0.39		
3599	Machinery, except electrical		0.10	
3612	Power, distribution, and specialty transformers	1.25	0.29	0.10
3613	Switchgear, switchboard equip		0.29	0.48
3621	Motors and generators		0.29	0.19
3624	Carbon and graphite products	0.19	0.19	0.29
3629	Electrical industrial apparatus, nec	0.10		0.19
3632	Household refrigerators and home and farm freezers		0.19	0.10
3633	Household laundry equipment	0.10		
3639	Household appliances, nec		0.29	
3641	Electric lamp bulbs and tubes	0.10		
3644	Noncurrent-carrying wiring devices		0.10	
3647	Vehicular lighting equipment		0.10	
3651	Household audio and video equipment	0.19	0.49	0.10
3652	Phonograph records, prerecorded audio tapes & disks	0.10	0.19	0.10
3661	Telephone & telegraph apparatus	0.19	0.78	0.29
3663	Radio & TV broadcasting & communications equipment	1.25	0.87	0.39
3669	Communications equipment, nec	0.29	0.19	0.10
3672	Printed circuit boards	0.39	0.10	
3674	Semiconductors and related devices	2.22	1.26	2.13
3675	Electronic capacitors		0.10	0.10
3679	Electronic components, nec	0.19	0.78	0.29
3691	Storage batteries	0.48		0.19
3692	Primary batteries, dry and wet	0.10	0.19	0.39
3694	Electrical equip. for internal combustion engines			0.19
3699	Electric equipment, nec		0.10	
3711	Motor vehicles and passenger car bodies	2.32	3.79	1.55
3713	Truck and bus bodies		0.10	
3714	Motor vehicle parts and accessories	5.02	2.14	3.48
3721	Aircraft	0.48	0.19	0.19
3724	Aircraft engines and engine parts	0.58	0.19	0.39
3728	Aircraft parts, equipment	0.10		0.10
3731	Ship building and repairing		0.10	0.19
3743	Railroad equipment	0.68	0.49	0.68
3751	Motorcycles, bicycles, and parts		0.10	0.10
3761	Guided missiles and space vehicles	0.29	0.10	
3764	Guided missile and space vehicle propulsion units	0.10		
3769	Guided missile and space vehicle parts, nec			0.10

Table 2.3 (continued)

3812	Search, detection, and navigation equipment	0.29		0.39
3822	Environmental controls	0.19		
3823	Process control instruments	0.19		0.10
3825	Instruments to measure electricity	0.29		0.10
3826	Laboratory analytical instruments	0.10		
3827	Optical instruments and lenses	0.29	0.19	0.10
3829	Measuring & controlling devices	0.29	0.29	0.29
3841	Surgical and medical instruments and apparatus	0.68	0.29	0.10
3842	Orthopedic, prosthetic, and surgical supplies	0.10		0.19
3843	Dental equipment and supplies		0.10	0.10
3844	X-Ray apparatus & tubes & other irradiation equip.	0.10		
3845	Electromedical and electrotherapeutic apparatus	0.10	0.19	0.19
3851	Ophthalmic goods		0.10	
3861	Photographic equipment and supplies	0.39	0.10	0.19
3873	Watches, clocks, clockwork operated devices, parts	0.19	0.29	0.29
3911	Jewelry, precious metal		0.29	
3914	Silverware, plated ware, and stainless steel ware		0.10	
3915	Jewelers' findings & materials, & lapidary work		0.10	
3931	Musical instruments		0.19	0.10
3949	Sporting and athletic goods, nec	0.10		0.10
3951	Pens, mechanical pencils, and parts	0.10		0.10
3999	Manufacturing industries, nec			0.19
4011	Railroads, line-haul operating	0.10		
4213	Trucking, except local		0.39	0.39
4215	Courier services, except by air	0.10	0.19	0.10
4225	General warehousing and storage			0.29
4412	Deep sea foreign transportation of freight	0.19	0.29	0.29
4424	Deep sea domestic transportation of freight	0.10		
4449	Water transportation of freight, nec			0.10
4481	Deep sea transportation of passengers, exc. ferry	0.29	0.10	0.19
4491	Marine cargo handling		0.19	0.39
4512	Air transportation, scheduled	0.10	0.87	0.10
4513	Air courier services	0.10		
4581	Airports and airport terminal services		0.19	0.48
4724	Travel agencies	0.19	0.58	0.39
4725	Tour operators	0.10	0.10	0.10
4731	Arrangement of transportation of freight and cargo	0.29	0.19	0.39
4741	Rental of railroad cars	0.10		
4812	Radiotelephone communications	0.48	0.58	0.87
4813	Telephone communications, except radiotelephone	1.45	3.69	1.35
4832	Radio broadcasting stations	0.10	0.49	
4833	Television broadcasting stations		0.68	0.19
4841	Cable and other pay television services	0.39	0.29	0.58
4899	Communications services, nec	0.68	0.19	0.68
4911	Electric services	0.68	1.17	1.06
4922	Natural gas transmission		0.39	0.10
4923	Natural gas transmission and distribution		0.10	
4924	Natural gas distribution	0.10	0.19	0.10

Table 2.3 (continued)

4925	Gas production and/or distribution	0.10		0.10
4931	Electric and other services combined	0.19		
4932	Gas and other services combined	0.19		
4941	Water supply	0.10		
4953	Refuse systems	0.29	0.19	0.19
5012	Automobiles and other motor vehicles			0.19
5013	Automotive parts, supplies	0.10	0.39	0.68
5014	Tires and tubes			0.19
5021	Furniture		0.10	
5045	Computers and peripheral equipment and software	0.10	0.19	0.19
5046	Commercial equipment, nec			0.10
5047	Medical, dental, and hospital equipment & supplies	0.19		0.29
5049	Professional equipment and supplies, nec			0.10
5051	Metals service centers and offices	0.10	0.78	0.19
5063	Electrical apparatus and equip			0.10
5064	Electrical appliances, television and radio sets		0.10	
5065	Electronic parts and equipment, nec	0.29		0.39
5072	Hardware		0.10	
5075	Warm air heating and air-conditioning equipment			0.10
5082	Construction & mining (except petroleum) machinery		0.29	
5084	Industrial machinery and equipment		0.19	
5085	Industrial supplies	0.19		
5087	Service establishment equipment and supplies		0.19	0.10
5088	Transportation equipment, except motor vehicles			0.19
5091	Sporting and recreational goods and supplies		0.10	
5093	Scrap and waste materials		0.19	0.19
5094	Jewelry, watches, and precious stones and metals			0.10
5099	Durable goods, nec	0.10	0.87	0.19
5112	Stationery and office supplies	0.19		0.39
5122	Drugs, drug proprietaries, and druggists' sundries			0.29
5137	Women's and children's clothing and accessories			0.10
5139	Footwear			0.10
5147	Meats and meat products		0.10	
5148	Fresh fruits and vegetables	0.10	0.10	
5149	Groceries and related products, nec		0.10	0.19
5171	Petroleum bulk stations and terminals	0.29		
5172	Petroleum and petroleum products wholesalers, nec		0.10	0.10
5181	Beer and ale		0.10	0.10
5182	Wine and distilled alcoholic beverages			0.10
5193	Flowers, nursery stock, and florists' supplies			0.10
5199	Nondurable goods, nec			0.10
5311	Department stores		0.49	0.19
5331	Variety stores	0.39		0.10
5399	Miscellaneous general merchandise stores		0.10	
5411	Grocery stores		0.19	
5461	Retail bakeries	0.10		
5531	Auto and home supply stores			0.10
5621	Women's clothing stores		0.10	

Table 2.3 (continued)

5632	Women's accessory and specialty stores			0.10
5661	Shoe stores	0.10		0.29
5699	Miscellaneous apparel and accessory stores		0.10	0.10
5712	Furniture stores		0.10	0.10
5719	Miscellaneous home furnishings stores	0.10		0.10
5731	Radio, television, and consumer electronics stores	0.10		0.10
5734	Computer and computer software stores	0.10		0.29
5735	Record and prerecorded tape stores		0.19	0.10
5812	Eating places	0.19	0.49	0.87
5813	Drinking places (alcoholic beverages)	0.48	0.19	
5942	Book stores			0.10
5943	Stationery stores		0.10	
5944	Jewelry stores	0.10		
5947	Gift, novelty, and souvenir shops	0.10		
5961	Catalog and mail-order houses	0.58	0.49	0.29
5999	Retail stores, nec		0.39	0.39
6000	Banks		3.01	0.10
6021	National commercial banks	1.45		
6022	State banks, member fed reserve	0.19	0.39	
6029	Commercial banks, nec		0.19	
6099	Functions related to depository banking, nec	0.19		0.39
6141	Personal credit institutions	0.68	0.49	0.39
6153	Short-term business credit institutions	0.10		0.29
6159	Misc. business credit		0.39	
6162	Mortgage bankers and loan correspondents	0.39	0.10	0.48
6211	Security brokers, dealers, and flotation companies	3.57	1.65	2.61
6221	Commodity contracts brokers and dealers	0.48	0.10	0.10
6231	Security and commodity exchanges	0.19	0.19	0.19
6282	Investment advice	0.77	1.55	1.26
6289	Security and commodity services, nec		0.10	0.19
6311	Life insurance	1.25	0.58	0.97
6321	Accidental and health insurance			0.19
6324	Hospital and medical service plans	0.10		
6331	Fire, marine, and casualty insurance	0.87	0.10	0.29
6351	Surety insurance		0.10	
6371	Pension, health, and welfare funds			0.10
6411	Insurance agents, brokers, and service	0.19		
6512	Operators of nonresidential buildings	0.10	0.29	0.39
6519	Lessors of real property, nec		0.10	
6531	Real estate agents and managers	0.48	0.29	0.48
6552	Land subdividers and developers, except cemeteries		1.94	1.55
6712	Offices of bank holding companies	0.10	0.19	
6719	Offices of holding companies, nec		0.49	0.10
6722	Management investment offices, open-end		0.10	0.58
6726	Investment offices, nec		0.10	0.48
6794	Patent owners and lessors	0.10		
6798	Real estate investment trusts	2.12	0.58	0.97
6799	Investors, nec	0.58	5.64	0.68

Table 2.3 (continued)

7011	Hotels and motels	1.25	0.58	1.26
7299	Misc. personal services	0.10		0.10
7311	Advertising agencies	0.10	0.58	0.10
7319	Advertising, nec			0.19
7323	Credit reporting services	0.10	0.10	0.10
7331	Direct mail advertising services	0.19	0.10	
7334	Photocopying and duplicating services	0.10		
7336	Commercial art and graphic design	0.10		
7342	Disinfecting and pest control devices			0.10
7349	Building cleaning and maintenance services, nec			0.10
7359	Equipment rental and leasing, nec		0.10	0.10
7361	Employment agencies	0.29	0.19	0.29
7363	Help supply services	0.19		
7371	Computer programming services	0.77	0.68	0.77
7372	Prepackaged Software	6.18	2.53	3.77
7373	Computer integrated systems design	0.77	0.58	0.48
7374	Data processing services	0.58	0.39	0.97
7375	Information retrieval services	3.86	2.53	9.86
7376	Computer facilities management services	0.19	0.58	0.58
7377	Computer rental and leasing			0.10
7378	Computer maintenance and repair		0.10	
7379	Computer related services, nec	0.39	0.29	0.48
7381	Detective, guard, and armored car services		0.10	
7383	News syndicates		0.19	
7389	Business services, nec	1.06	0.68	1.35
7513	Truck rental and leasing, without drivers		0.10	
7533	Automotive exhaust system repair shops		0.10	
7538	General automotive repair shops			0.10
7629	Electrical and electronic repair shops, nec		0.10	
7692	Welding repair		0.10	
7699	Repair shops and related services, nec			0.10
7812	Motion picture and video tape production	0.77	0.19	0.19
7819	Services allied to motion picture production		0.10	
7822	Motion picture and video tape distribution	0.10		0.10
7832	Motion picture theaters, except drive-in	0.10		0.19
7941	Professional sports clubs and promoters		0.10	
7948	Racing, including track operation		0.10	0.10
7993	Coin-operated amusement devices	0.10		
7996	Amusement parks	0.19		
7999	Amusement and recreation svcs	0.39		
8059	Nursing & personal care facils	0.10		
8062	General medical and surgical hospitals	0.10		
8092	Kidney dialysis centers	0.10	0.10	0.10
8093	Specialty outpatient facilities, nec			0.10
8099	Health and allied services, nec	0.19	0.10	0.10
8221	Colleges, universities, and professional schools		0.49	0.10
8243	Data processing schools		0.10	0.10
8244	Business and secretarial schools		0.10	

Table 2.3 (continued)				
8299	Schools and educational services, nec	0.19	0.10	0.29
8331	Job training vocational rehabilitation services			0.10
8711	Engineering services	0.68	0.58	0.87
8712	Architectural services		0.10	
8731	Commercial physical and biological research	0.58	0.68	2.22
8732	Commercial nonphysical research	0.68	0.19	0.58
8733	Noncommercial research organizations		0.19	0.10
8734	Testing laboratories	0.10		
8741	Management services		0.10	0.29
8742	Management consulting services	1.16	1.07	2.32
8744	Facilities support management services	0.10		
8748	Business consulting services, nec	0.10	0.10	0.10
9121	Legislative bodies		0.10	
9511	Air and water resource and solid waste management			0.10
9611	Administration of general economic programs		0.10	

A standard event study method is used to measure the stock price response of US partners around IJV announcements. Abnormal performance for each US partner is estimated using the market model and daily stock returns from CRSP. The date of an IJV announcement from the SDC database is defined as day 0, and the estimation period for the market model estimate begins on day -170 and ends with day -21. The CRSP equally-weighted index is used as a proxy for market return. Abnormal returns for each firm are calculated as the difference between the actual return and an expected return generated by the market model; then abnormal returns are averaged across firms to obtain abnormal returns for each day over the event window [-10, +10]. I use three parametric and nonparametric tests to determine whether the abnormal return is significantly different from zero. The first test is a parametric Patell Z test. The second test is a nonparametric rank test described in Corrado (1989). I also use the nonparametric generalized sign test to test whether the fraction of positive returns on each event day is different from that in the estimation period.

2.4.2 Empirical results

Table 2.4: Abnormal returns of US partners for IJV announcements, 1999-2008
Abnormal returns (AR) and cumulative abnormal returns (CAR) are generated using the market model. For each firm, market model coefficients are estimated using daily returns and CRSP equally weighted market returns over the 150-day ([-170, -21]) estimation period. AR and CAR are tested for a statistically significant difference from zero using the two-tail parametric Patell Z test. A nonparametric rank test described in Corrado (1989) is used for testing the significance of the rank of the abnormal return. The nonparametric generalized sign test is used to test whether the fraction of positive returns is different form that in the estimation period. ***, **, and * denote statistical significance at the 1%, 5% and 10% level, respectively.

Event day or window	AR or CAR (%)	Z statistic	Rank statistic	Percent positive of AR or CAR
-10	0.18	1.241	0.820	48.4
-9	0.01	1.176	0.060	47.9
-8	0.05	0.346	-0.830	49.0
-7	0.05	-1.667*	-1.650	45.4
-6	-0.07	-0.737	-0.640	48.4
-5	-0.14	-0.951	-0.920	47.3
-4	-0.03	0.030	-0.450	47.1
-3	-0.10	-0.640	-2.160**	45.0
-2	-0.17	-1.188	-1.580	45.6
-1	-0.09	-1.517	-1.640	45.7
0	1.06	7.545***	4.050***	53.1***
+1	-0.14	-0.373	-1.220	45.6
+2	-0.22	-0.750	-1.290	46.5
+3	0.04	0.082	0.060	47.9
+4	-0.28	-3.110***	-2.700***	42.9***
+5	-0.24	-0.950	-1.590	45.0
+6	0.10	1.091	0.060	48.2
+7	-0.24	-2.092**	-2.600**	44.9
+8	-0.07	-0.360	-0.840	44.8
+9	0.23	1.883*	0.920	48.9
+10	-0.08	0.743	-0.100	47.9
[-1, 0]	0.97	4.263***	1.708*	51.0**
[-1, +1]	0.82	3.265***	0.688	49.3
[-2, +2]	0.43	1.664*	-0.753	50.8**
[-2, +1]	0.65	2.234**	-0.196	49.3

Table 2.4 reports the abnormal returns of US partners for the whole sample of IJV announcements. The mean abnormal return on the announcement day 0 is 1.06%,

and it is significant at the 1% level according to all parametric and nonparametric tests. Many papers in the related literature evaluate the announcement effect by the 2-day cumulative abnormal return (CAR) over the day [-1, 0].[19] I also check the CAR [-1, 0], which is 0.97% and statistically significant according to all tests. The results show that IJV investments are associated with a gain in shareholder value of US partners, on average.

Following Doukas and Lang (2003), I classify IJV investments into two categories for US partners: focused IJVs and diversifying IJVs. If the primary four-digit SIC code of the IJV is the same as the primary four-digit SIC code of the US partner, the investment is classified as a focused IJV.[20] When the primary four-digit SIC code of the IJV is different from the primary four-digit SIC code of the US partner, the investment is classified as a diversifying IJV. In the sample, the number of focused IJVs is 325, while the number of diversifying IJVs is 717.[21] This indicates that many US firms diversify outside their core businesses through IJV investments.

Table 2.5 reports the abnormal returns of US partners for focused IJVs and diversifying IJVs. On the announcement day, day 0, the mean abnormal return for the focused IJVs is 0.90% and significant statistically, and the mean abnormal return for the diversifying IJVs is 1.13% and also statistically significant. The abnormal return on day -1 is -0.50 and statistically significant for the focused IJVs, but the day -1 abnormal return for the diversifying IJVs is positive (0.09%) and not significant. The CAR [-1, 0] for focused IJVs is 0.40% and not significant, but the CAR [-1, 0] for diversifying IJVs is 1.22% and statistically significant. These results suggest that the

[19] This procedure considers the situation that the announcement is made during trading hours the previous day and reported with a one-day lag.
[20] The SDC platinum provides the primary four-digit SIC code of joint ventures and joint venture partners.
[21] In the sample of this study, 68.81% of IJV investments of US firms are associated with non-core-related business. This is similar to the finding in Doukas and Lang (2003) that 64.09% of Greenfield FDI of US firms are associated with non-core-related business from 1980-1992.

Table 2.5: Abnormal returns for announcements of focused IJVs and diversifying IJVs

Event day or window	Focused IJVs (N=325)				Diversifying IJVs (N=717)				Difference
	AR or CAR (%)	Z statistic	Rank statistic	Percent positive of AR or CAR	AR or CAR (%)	Z statistic	Rank statistic	Percent positive of AR or CAR	
-10	0.09	0.196	0.100	48.1	0.22	1.312	0.860	48.4	-0.13
-9	0.27	2.203**	1.350	51.8	-0.10	-0.084	-1.010	46.1	0.37
-8	0.34	1.025	-0.620	48.8	-0.08	-0.331	-0.600	48.9	0.42
-7	-0.27	-1.676*	-0.420	47.0	0.19	-0.940	-1.740*	44.6	-0.46
-6	-0.19	-1.510	-1.520	45.1	-0.02	0.072	0.340	49.8	-0.17
-5	-0.12	-0.492	0.240	48.8	-0.15	-0.851	-1.350	46.6	0.03
-4	0.20	1.127	0.080	47.0	-0.14	-0.740	-0.650	47.1	0.34
-3	-0.21	-1.336	-0.600	47.3	-0.05	0.058	-2.230**	43.9*	-0.16
-2	-0.13	-0.228	-0.450	46.6	-0.19	-1.218	-1.520	45.3	0.06
-1	-0.50	-2.571**	-3.160***	59.5***	0.09	-0.104	0.450	49.6	-0.59**
0	0.90	4.144***	2.370**	52.6*	1.13	6.305***	3.120***	53.5***	-0.23
+1	0.24	0.943	0.270	48.5	-0.31	-1.003	-1.630	44.4	0.55
+2	-0.05	0.331	0.610	49.2	-0.30	-1.052	-1.970*	45.3	0.25
+3	-0.06	-0.427	-0.100	48.1	0.09	0.406	0.180	47.9	-0.15
+4	-0.06	-0.996	-0.700	44.7	-0.38	-3.081***	-2.750***	42.0***	0.32
+5	-0.43	-1.822*	-1.810*	38.8***	-0.15	0.041	-0.590	47.7	-0.28
+6	-0.06	-0.176	0.150	48.5	0.17	1.428	-0.040	48.0	-0.23
+7	-0.20	-0.951	-1.520	43.0	-0.25	-1.834*	-1.930*	45.8	0.05
+8	0.01	0.345	0.880	49.4	-0.10	-0.668	-1.710*	42.7**	0.11
+9	0.10	0.723	-0.120	47.3	0.28	1.769*	1.190	49.5	-0.18
+10	-0.03	0.428	0.500	49.2	-0.11	0.595	-0.520	47.2	0.08
[-1, 0]	0.40	1.112	-0.560	46.6	1.22	4.385***	2.520**	53.1***	-0.82
[-1, +1]	0.64	1.452	-0.304	49.2	0.91	3.001***	1.119	49.4	-0.27
[-2, +2]	0.46	1.171	-0.166	49.2	0.43	1.311	-0.695	51.6**	0.03
[-2, +1]	0.51	1.144	-0.490	49.2	0.73	1.990**	0.210	49.4	-0.22

gains of US shareholders from diversifying IJVs are greater than gains from focused IJVs, on average. This is in contrast to the finding in Doukas and Lang (2003) that non-core-related Greenfield FDI is harmful for US shareholders. It is also in contrast to the significant negative abnormal returns of US bidding firms announcing diversifying international acquisitions documented in Markides and Ittner (1994). Since the IJV investment studied in this paper, the Greenfield FDI analyzed in Doukas and Lang (2003), and international acquisitions studied in Markides and Ittner (1994) are three different modes of FDI, the conflicting results should not be surprising.

Furthermore, the conflicting results seem to suggest that the IJV investment may be a preferred mode when US firms invest outside of their core businesses and seek out diversification benefits abroad. The motive to seek out diversification benefits can also be supported by the fact that there is a greater number of US firms engaging in diversifying IJVs than that of focused IJVs in my sample.

Since the literature has shown the potential effect of partner business relatedness on the shareholder value of US partners who make IJV investments, I divide my sample further. Partner participation is also a unique feature in IJV investment. When firms engage in Greenfield FDI, they just invest in themselves. I classify focused IJV investments into two groups. If the foreign partner's primary four-digit SIC code is the same as the primary four-digit SIC code of the US partner, investments are in the group of focused IJVs with related partners. If the foreign partner's primary four-digit SIC code is different from the primary four-digit SIC code of the US partner, investments are in the group of focused IJVs with unrelated partners. Similarly, I divide diversifying IJV investments into two categories: diversifying IJVs with related partners and diversifying IJVs with unrelated partners.

Table 2.6 reports the abnormal returns for focused IJVs with related partners and focused IJVs with unrelated partners. There are 124 IJVs in the sample of the former and 201 IJVs in the sample of the latter. This indicates that more US firms engage in focused IJVs with unrelated partners than with related partners in the sample. The abnormal return on day 0 for focused IJVs with related partners is 0.92%, and both the Z statistic and rank statistic are significant. The abnormal return on day 0 for focused IJVs with unrelated partners is 0.89%. The Z statistic is significant while the rank statistic is not significant. The abnormal return on day -1 is -0.52% and significant according to all tests for focused IJVs with related partners, and the abnormal return on day -1 is -0.49% and also significant according to all tests for

focused IJVs with unrelated partners. The CAR [-1, 0] for both groups is 0.40% and not significant. The abnormal return pattern of these two subgroups of focused IJVs is consistent with the pattern of the whole sample of focused IJVs. There is not much difference between the abnormal return pattern of focused IJVs with related partners and focused IJVs with unrelated partners. When US firms expand their core businesses abroad, it seems that partner business relatedness does not play a role in the shareholder value of US partners.

Table 2.6: Abnormal returns for announcements of focused IJVs with related partners and focused IJVs with unrelated partners

Event day or window	Focused IJVs with related partners (N=124)				Focused IJVs with unrelated partners (N=201)				Difference
	AR or CAR (%)	Z statistic	Rank statistic	Percent positive of AR or CAR	AR or CAR (%)	Z statistic	Rank statistic	Percent positive of AR or CAR	
-10	-0.01	-0.496	-0.150	50.0	0.15	0.653	0.260	46.9	-0.16
-9	-0.25	0.407	0.070	48.1	0.61	2.505**	1.780*	54.3*	-0.86
-8	-0.21	0.262	-0.080	50.0	0.70	1.106	-0.770	48.1	-0.91
-7	0.37	0.304	0.670	52.8	-0.69	-2.402**	-1.150	43.2	1.06**
-6	-0.18	-0.984	-0.970	44.3	-0.19	-1.146	-1.240	45.6	0.01
-5	-0.48	-1.440	-0.840	47.1	0.11	0.533	1.040	50.0	-0.59
-4	0.97	2.107**	1.320	56.6*	-0.30	-0.255	-1.020	40.7	1.27**
-3	-0.54	-1.675*	-0.680	47.1	0.00	-0.363	-0.230	47.5	-0.54
-2	-0.21	-0.457	-0.810	47.1	-0.08	0.076	0.080	46.2	-0.13
-1	-0.52	-1.998**	-2.240**	36.7**	-0.49	-1.690*	-2.390**	37.6**	-0.03
0	0.92	2.947***	2.150**	54.7	0.89	2.945***	1.390	51.2	0.03
+1	-0.08	-0.173	-0.160	45.2	0.45	1.352	0.500	50.6	-0.53
+2	0.01	0.434	0.650	50.0	-0.09	0.075	0.280	48.7	0.10
+3	-0.40	-1.052	-0.990	46.2	0.16	0.303	0.710	49.3	-0.56
+4	0.07	-0.471	-0.170	49.0	-0.14	-0.900	-0.810	41.9	0.21
+5	-0.45	-1.825*	-2.110**	38.6*	-0.42	-0.868	-0.670	38.8**	-0.03
+6	-0.20	-0.646	-0.110	47.1	0.03	0.297	0.300	49.3	-0.23
+7	-0.22	0.310	-0.380	42.8	-0.19	-1.466	-1.740*	43.2	-0.03
+8	-0.56	-2.514**	-0.940	43.8	0.38	2.457**	1.980**	53.0	-0.94*
+9	0.15	1.112	-0.200	44.7	0.07	0.032	0.010	49.0	0.08
+10	0.45	1.710*	0.730	50.4	-0.34	-0.829	0.050	48.4	0.79
[-1, 0]	0.40	0.671	-0.065	46.2	0.40	0.887	-0.706	46.9	0.00
[-1, +1]	0.32	0.448	-0.147	46.2	0.85	1.505	-0.288	51.2	-0.53
[-2, +2]	0.12	0.337	-0.188	48.1	0.68	1.234	-0.066	50.0	-0.56
[-2, +1]	0.11	0.160	-0.534	47.1	0.78	1.342	-0.211	50.6	-0.67

Table 2.7: Abnormal returns for announcements of diversifying IJVs with related partners and diversifying IJVs with unrelated partners

Event day or window	Diversifying IJVs with related partners (N=81)				Diversifying IJVs with unrelated partners (N=636)				Difference
	AR or CAR (%)	Z statistic	Rank statistic	Percent positive of AR or CAR	AR or CAR (%)	Z statistic	Rank statistic	Percent positive of AR or CAR	
-10	0.66	2.102**	1.340	51.4	0.16	0.633	0.430	48.1	0.50
-9	-0.11	0.110	-0.320	42.8	-0.10	-0.130	-0.940	46.5	-0.01
-8	0.27	0.506	1.070	55.7	-0.13	-0.536	-1.000	48.1	0.40
-7	-0.44	-1.001	-0.660	44.2	0.28	-0.637	-1.590	44.6	-0.72*
-6	-0.93	-1.254	-1.740*	42.8	0.10	0.532	0.970	50.7	-1.03**
-5	-0.29	-0.983	-0.790	45.7	-0.13	-0.549	-1.130	46.7	-0.16
-4	0.22	-0.358	-0.980	38.5	-0.18	-0.657	-0.330	48.2	0.40
-3	0.44	1.058	-0.090	44.2	-0.12	-0.322	-2.290**	43.9*	0.56
-2	-0.48	-1.408	-1.400	44.2	-0.15	-0.785	-1.090	45.4	-0.33
-1	0.07	-0.132	-0.290	47.1	0.09	-0.062	0.570	50.0	-0.02
0	0.85	1.771*	2.120**	64.2**	1.17	6.065***	2.510**	52.0**	-0.32
+1	-0.65	-1.227	-1.150	42.8	-0.26	-0.622	-1.290	44.6	-0.39
+2	-0.91	-2.219**	-2.500**	35.7*	-0.21	-0.312	-1.180	46.6	-0.70
+3	0.09	0.060	0.300	47.1	0.09	0.411	0.080	48.0	0.00
+4	-0.37	-1.024	-1.440	37.1	-0.38	-2.906***	-2.370**	42.6**	0.01
+5	-0.07	0.252	-0.740	45.7	-0.16	-0.048	-0.350	48.0	0.09
+6	0.33	1.356	-0.050	47.1	0.15	1.026	-0.030	48.1	0.18
+7	0.19	0.233	0.490	51.4	-0.31	-2.036**	-2.190**	45.1	0.50
+8	-0.35	-0.480	-1.070	43.4	-0.07	-0.538	-1.410	42.6**	-0.28
+9	1.02	2.641***	2.380**	56.5	0.18	0.929	0.410	48.6	0.84*
+10	-0.13	-1.057	-1.010	43.4	-0.11	1.015	-0.190	47.8	-0.02
[-1, 0]	0.92	1.159	1.297	51.4	1.26	4.244***	2.173**	53.4***	-0.34
[-1, +1]	0.27	0.238	0.396	48.5	1.00	3.107***	1.028	49.6	-0.73
[-2, +2]	-1.11	-1.438	-1.441	52.8	0.64	1.917*	-0.217	51.5*	-1.75
[-2, +1]	-0.20	-0.498	-0.359	42.8	0.85	2.298**	0.346	50.3	-1.05

Table 2.7 provides the abnormal returns for diversifying IJVs with related partners and diversifying IJVs with unrelated partners. In the sample, 636 diversifying IJVs are formed with unrelated partners, while only 81 diversifying IJVs are formed with related partners. This indicates that when US firms engage in diversifying IJVs, they usually form partnerships with foreign partners whose core businesses are different from theirs. The abnormal return on day 0 is 0.85% and significant for diversifying IJVs with related partners. The abnormal return on day 0 is 1.17% and

significant for diversifying IJVs with unrelated partners. The CAR [-1, 0] for diversifying IJVs with related partners is 0.92%, but it is not significant. The CAR [-1, 0] for diversifying IJVs with unrelated partners is 1.26%, and all test statistics are significant. Results indicate that diversifying IJVs with unrelated partners are expected to create more value for US partners than doing so with related partners, on average.

For diversifying IJVs with unrelated partners, I divide them further into two groups according to the relationship of the core business of the foreign partner and the core business of the IJV. I name these two types of investments unilaterally diversifying IJVs with unrelated partners and bilaterally IJVs with unrelated partners. For unilaterally diversifying IJVs with unrelated partners, the primary four-digit SIC code of the IJV is the same as that of the foreign partner although it is different from that of the US partner. For bilaterally diversifying IJVs with unrelated partners, the primary four-digit SIC code of the IJV is not only different from that of the US partner but also different from that of the foreign partner.

Table 2.8 reports the abnormal returns for unilaterally diversifying IJVs with unrelated partners and bilaterally IJVs with unrelated partners. There are 162 unilaterally diversifying IJVs with unrelated partners and 474 bilaterally IJVs with unrelated partners in the sample. The average abnormal return on day 0 is -0.03% and not significant for unilaterally diversifying IJVs with unrelated partners. For bilaterally IJVs with unrelated partners, the day 0 abnormal return is 1.56% and significant at the 1% level. The CAR [-1, 0] is -0.03% and not significant for unilaterally diversifying IJVs with unrelated partners, while the CAR [-1, 0] is 1.68% and significant for bilaterally IJVs with unrelated partners. Results show that IJV investments are expected to create the highest value for US partners when all three entities (US partner, foreign partner, and IJV) are in different core businesses.

Table 2.8: Abnormal returns for announcements of unilaterally diversifying IJVs with unrelated partners and bilaterally IJVs with unrelated partners

For unilaterally diversifying IJVs with unrelated partners, the core business of the IJV is different from the core business of the US partner, but is the same as the core business of the foreign partner. For bilaterally diversifying IJVs with unrelated partners, the core business of the IJV is different from the core business of both US and foreign partners.

Event day or window	Unilaterally diversifying IJVs with unrelated partners (N=162)				Bilaterally diversifying IJVs with unrelated partners (N=474)				Difference
	AR or CAR (%)	Z statistic	Rank statistic	Percent positive of AR or CAR	AR or CAR (%)	Z statistic	Rank statistic	Percent positive of AR or CAR	
-10	-0.30	-0.171	-0.080	48.0	0.31	0.824	0.540	48.1	-0.61
-9	-0.08	0.511	-0.360	46.5	-0.11	-0.438	-0.860	46.6	0.03
-8	-0.11	0.234	-0.760	45.7	-0.14	-0.748	-0.700	48.8	0.03
-7	0.75	0.823	0.120	48.0	0.13	-1.197	-1.880*	43.6	0.62
-6	0.06	1.194	0.710	48.0	0.11	-0.064	0.690	51.6*	-0.05
-5	0.09	0.303	0.010	47.2	-0.20	-0.802	-1.290	46.6	0.29
-4	0.28	0.341	0.040	48.0	-0.33	-0.947	-0.400	48.3	0.61**
-3	-0.30	-1.052	-2.120**	42.6	-0.06	0.225	-1.380	44.3	-0.24
-2	-0.01	-0.408	-0.400	45.7	-0.19	-0.672	-1.010	45.3	0.18
-1	0.00	0.124	0.670	55.0	0.12	-0.142	0.250	48.3	-0.12
0	-0.03	0.075	-0.670	44.9	1.56	6.925***	3.240***	54.3***	-1.59
+1	-0.21	-0.902	-0.560	45.7	-0.28	-0.204	-1.150	44.3	0.07
+2	-0.09	0.686	0.290	49.6	-0.25	-0.748	-1.510	45.7	0.16
+3	0.20	0.078	-0.190	47.2	0.06	0.428	0.210	48.2	0.14
+4	-0.49	-2.897***	-1.040	41.8	-0.35	-1.699*	-2.100**	42.9*	-0.14
+5	0.10	0.594	-0.190	47.2	-0.25	-0.391	-0.290	48.2	0.35
+6	0.72	3.481***	1.510	55.0	-0.03	-0.794	-0.910	45.9	0.75*
+7	-0.54	-3.063***	-2.610***	39.5**	-0.23	-0.603	-0.980	46.9	-0.31
+8	0.13	1.137	0.180	48.0	-0.14	-1.267	-1.710*	40.9***	0.27
+9	0.92	2.977***	1.740*	56.2*	-0.05	-0.616	-0.540	46.2	0.97*
+10	-0.52	-0.938	-0.960	45.3	0.03	1.698*	0.340	48.6	-0.55
[-1, 0]	-0.03	0.141	0.004	48.0	1.68	4.797***	2.473**	55.1***	-1.71*
[-1, +1]	-0.25	-0.406	-0.320	44.1	1.40	3.799***	1.357	51.3	-1.65
[-2, +2]	-0.35	-0.190	-0.297	51.9	0.95	2.310**	-0.075	51.3	-1.30
[-2, +1]	-0.25	-0.555	-0.478	45.7	1.21	2.954***	0.671	51.8*	-1.46

2.5 Summary and Conclusions

This is the first paper that systematically studies the effect of industrial diversification and partner business relatedness on shareholder value of US firms that engage in IJV investments abroad. Results show that, on average, investing abroad through IJVs is beneficial for US partners. IJVs invested outside of the core businesses of both US and foreign partners and formed by partners with different core businesses are the most value-increasing for US shareholders. The mechanism of value creation from industry diversification and partner unrelatedness in the context of IJV investments is open to future research.

Previous literature provides dominant evidence that the industrial diversification is associated with a "discount" in the shareholder value for Greenfield FDI and international acquisition, therefore the "premium" from diversifying IJV investments documented in this paper may also suggest that the international joint venture should be a preferred mode for US firms when they develop their non-core businesses overseas.

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